



GREYBALL AUDIT REPORT



PBOT
PORTLAND BUREAU OF TRANSPORTATION

Table of Contents

| | |
|----------------------------------------------------------------------|-----------|
| I. Report Summary | 2 |
| II. Emergence of Transportation Network Companies in Portland | 2 |
| III. Uber’s Use of Greyball Software | 4 |
| IV. Investigation Overview | 4 |
| V. Investigation Methods & Research | 5 |
| VI. Findings | 7 |
| VII. Conclusion & Recommendations | 25 |
| Exhibits | |



TO: Commissioner Dan Saltzman

FROM: Director Leah Treat

DATE: April 28, 2017

RE: **Transportation Network Companies: Regulation Evasion Audit**

I. Report Summary

In March 2017, *The New York Times* revealed Uber's use of a software tool known as Greyball to deliberately evade local regulators, and in some cases, potential customers in Portland and other cities across the world. Soon after, Mayor Wheeler and Commissioner Saltzman directed the Portland Bureau of Transportation (PBOT) to conduct an investigation into the duration and extent of Uber's efforts to avoid regulation in Portland. They also requested that PBOT investigate whether there was any indication that other transportation network companies had employed similar tactics.

This report details PBOT's official investigation into the matter.

As the regulatory body charged with ensuring the safety of Portlanders as they use the City's roads and transportation system, PBOT has a responsibility to monitor the actions of private transportation companies operating within the City and enforce existing rules and regulations. For this investigation, PBOT completed a comprehensive assessment of the operations of the Transportation Network Companies (TNCs) Uber and Lyft. This assessment included: re-analysis of the regular compliance audits of TNC drivers conducted throughout the City and at the Port of Portland; detailed reviews of all complaints filed by TNC passengers; surveys of other cities where TNCs are actively operating; and an analysis of ride data and other information provided by both Uber and Lyft.

Based on this analysis, PBOT has found that when Uber illegally entered the Portland market in December 2014, the company tagged 17 individual rider accounts, 16 of which have been identified as government officials using its Greyball software tool. Uber used Greyball software to intentionally evade PBOT's officers from December 5 to December 19, 2014 and deny 29 separate ride requests by PBOT enforcement officers. On December 21, 2014 Uber ceased operations in the City of Portland. Uber received a permit to operate in the City of Portland during an initiated Pilot Period beginning April 24, 2015. Uber has provided documentation which shows the Greyball tags were removed on April 24, 2015. After April 2015, PBOT did not find any evidence suggesting that either Uber or Lyft attempted to use a software tool to evade PBOT's officials in their efforts to protect TNC consumers or to deny consumers rides based on their location.

In reaching this conclusion, it is important to note that finding no evidence of the use of Greyball or similar software tools after April 2015 does not prove definitively that such tools were not used. It is inherently difficult to prove a negative. In using Greyball, Uber has sullied its own reputation and cast a cloud over the TNC industry generally. The use of Greyball has only strengthened PBOT's resolve to operate a robust and effective system of protections for Portland's TNC customers.



To this end, PBOT will continue to conduct regular compliance audits of all private for-hire transportation companies operating with the City of Portland, investigate complaints involving individual drivers, and monitor for code violations by both drivers and companies.

II. Emergence of Transportation Network Companies in Portland

Portland's population has grown rapidly over the past several years. With that growth has come increased demand for transportation options that provide an alternative to driving single-occupancy vehicles. The City of Portland's transportation system has evolved from three basic modes of transportation (automobile, bus, and taxi) to a complex multi-modal transportation system with light rail, specialized bus services, and dedicated bicycle and pedestrian systems alongside a wide range of other transportation services. One of the most rapid and challenging shifts in the city's transportation system has been the emergence of Transportation Network Companies (TNCs) such as Uber and Lyft.

As TNCs began expanding to cities beyond San Francisco and New York in 2012 and 2013, officials at the Portland Bureau of Transportation (PBOT) observed that they routinely pushed their way into new markets without the consent of local regulators. When Uber began offering services within the City of Portland in December 2014, the company did so without permits or any form of regulatory oversight. The City promptly issued a Cease and Desist Letter and filed a complaint for declaratory judgment of unlawful and unpermitted activity against Uber in state court. Uber petitioned to have the case removed to federal court on the following day. Subsequently, the City filed a Motion for a Temporary Restraining Order and Preliminary Injunction in federal court.

With this motion, the City filed a number of affidavits including an assertion by a Regulatory Program Specialist at PBOT that: "[o]n Friday, December 5, 2014, I was at the Arlene Schnitzer Concert Hall located at 1037 SW Broadway, Portland, Oregon 97205 between 5:15 p.m. and 5:45 p.m. and was able to utilize the Uber application to hail an Uber driver on four occasions and on all four occasions, after the ride was booked, the driver cancelled." This assertion was later featured in a *New York Times* article revealing the Uber's use of a sophisticated software tool called Greyball to designed to evade regulators.

As a result of the litigation, Uber agreed to stop operations in the City of Portland at 11:59 p.m. On December 21, 2014. The City of Portland formed a Private for-Hire Innovation Task Force and per their recommendations in April of 2015, City Council directed PBOT to establish a 120-day pilot period for all private for-hire transportation companies including Uber and Lyft. As part of this pilot period, the City of Portland adopted a set of preliminary protections for TNC consumers. The preliminary measures include an explicit prohibition against denying or blocking City officials from using TNC ride-hailing applications.

The pilot period was extended for an additional 120 days on August 17, 2015 with the same prohibitions on blocking city officials from ride-hailing applications.

On December 2, 2015, the City Council adopted Ordinance 187472 creating new permanent Private for-Hire Transportation Regulations (Chapter 16.40). These regulations became effective on January 2nd, 2016. The Private for-Hire Transportation Code requires that companies and drivers submit to mandatory compliance audits and enforcement actions upon request.

Since the end of the second pilot period, and the adoption of a regulatory framework shortly



thereafter, Uber and Lyft have been the primary TNCs operating in the City of Portland. Since the arrival of TNCs in 2014, the number of private for-hire rides in the City has increased dramatically. The private for-hire transportation industry as a whole is projected to provide close to 7.0 million rides within the City of Portland in 2017.

Given the volume of TNC rides, the City of Portland has a fundamental interest in ensuring that TNC drivers and their vehicles are safe, that TNC customers are treated fairly and that TNC companies adhere to all measures designed to protect consumer and ensure a fair and transparent private-for-hire market.

III. Uber's Use of Greyball Software

On March 3, 2017, *The New York Times* (Exhibit J) published the story, "***How Uber Deceives the Authorities Worldwide.***" The story details Uber's use of the Greyball software tool to deliberately evade local regulators and, in some cases, potential customers.

The article documents how Uber used Greyball and other surveillance techniques in a sophisticated, worldwide scheme to deceive public officials in markets where its low-cost ride-hailing service had been banned or placed under scrutiny by local authorities.

The Greyball software program collects data from the Uber application to identify individual public officials, limit their ability to use the service, and circumvent efforts to regulate the ride-hailing service. Uber applied these methods in Portland and in other U.S. cities such as Boston and Las Vegas, and throughout the world in countries including France, Australia, China and South Korea.

Greyball was part of a program called VTOS, short for "violation of terms of service," which Uber created to exclude people it thought were using or targeting its service improperly. The program as a whole began as early as 2014 and remains in use, predominantly outside of the United States. Greyball was approved by Uber's general counsel.¹

IV. Investigation Overview

On March 15, 2017 in response to the information revealed in the *The New York Times* (Exhibit J), Mayor Ted Wheeler and Commissioner Dan Saltzman sent a letter to Uber expressing the City's strong disapproval of the company's attempts to evade regulation and notifying them of the City's intent to conduct an investigation into Uber's practices. Although the other major TNC, Lyft, was not accused of any wrongdoing, Mayor Wheeler and Commissioner Saltzman also sent a letter asking for their cooperation with the investigation. In both letters, the Mayor and Commissioner requested a comprehensive set of data and other information that would shed light on whether and to what extent the two TNCs attempted to circumvent Portland's private-for-hire regulations. The Mayor and the Commissioner also called for written assurances from both companies to never use software tools to evade regulators in the future (Exhibit A; Exhibit B).

Tasked by Mayor Wheeler and Commissioner Saltzman to assess whether TNCs used software and other techniques to avoid regulation or to unfairly deny service to customers, the Portland Bureau of Transportation's Regulatory Division has undertaken a comprehensive analysis of data

¹ "How Uber Deceives the Authorities Worldwide - The New York Times." 3 Mar. 2017, <https://www.nytimes.com/2017/03/03/technology/uber-greyball-program-evade-authorities.html>. Accessed 10 Apr. 2017.

related to Uber and Lyft's performance in the Portland market. Regulatory Division staff focused on the data collected since the beginning of the Pilot Program on April 24, 2015.²

Specifically, staff conducted the following analyses:

- A comprehensive internal review of all field and compliance audits conducted by PBOT.
- Detailed reviews of all complaints filed with PBOT by TNC passengers.
- Comparability analysis of field audits by enforcement officials using the TNC application and impromptu "walk-up" audits conducted at Portland International Airports Taxi & TNC waiting lot.
- Survey responses of other public agencies and bodies that regulate Transportation Network Companies in all 50 states.
- Analysis of ride data submitted by the TNCs.
- An analysis of the information provided by Uber and Lyft in response to Mayor Wheeler and Commissioner Saltzman's March 15th letters (Exhibit A; Exhibit B).

V. Investigation Methods & Research

V.1 Internal Review of Audits

The new Private-for-Hire Transportation Regulations introduced an increase in enforcement efforts to ensure the health and safety of passengers. Until TNCs entered the market, private-for-hire enforcement was largely complaint driven and focused primarily on permitting, background screening for drivers and vehicle inspections. At the beginning of the first pilot program in April 2015, PBOT introduced an inspection protocol based on driver and vehicle audits conducted on the street and at the Port of Portland.

Conducting consistent field audits is one of the primary and most effective ways to ensure compliance with the regulatory code. PBOT uses two types of audits: field and compliance audits.

Field audits

On-street field audits: During an on-street field audit, enforcement officers pose as customers and request rides from both taxi companies and TNCs. To hail TNC rides, the officers use a company's mobile app. To hail taxi rides, the officers use each taxi company's dispatch service. Once the requested taxi or TNC arrives, officers take a short ride during which they observe driver conduct and driving behavior. They also verify the driver's credentials and check vehicle safety.

² This period was chosen because it was at this point that the Bureau's Regulatory Division began to conduct regular routine field audits and all private-for-hire companies began to provide monthly reports of confidential trip data. The first 120-day pilot period was a recommendation made to City Council by the Private-for-Hire Innovation Task Force. This task force was convened by City Council in December 2014 to review and evaluate the service performance and regulatory framework of Portland's private for-hire transportation (PFHT) industry, and provide guidance and recommendations to the City Council regarding how the industry should evolve and respond to new developments in the industry, including the entry of Transportation Network Companies (TNCs). After the initial pilot and a subsequent second 120-day pilot period, the City Council adopted permanent rules allowing TNCs to operate in Portland.

Port of Portland field audits: At the Port of Portland, taxis and TNCs wait to be hailed at the private-for-hire holding lot. This allows enforcement officers to use a different auditing technique. Instead of hailing a TNC or taxi, enforcement officers go to the holding lot and inspect vehicles and check drivers there.

Compliance audits

Compliance audits are random checks of drivers currently certified to drive as well as the company certification processes and will be discussed in greater detail later in this report.

The different types of audits provide a method to check for evidence of Greyballing or other attempts to evade legitimate inspections. A TNC using Greyball or similar technology could avoid random inspections by flagging enforcement officers in their system and then only send their best and most seasoned drivers when these officers hailed rides. Such an evasive technique is not possible during Port of Portland audits because officers do not use the app to hail rides. By comparing the results of on-street and Port of Portland field audits, PBOT can reasonably determine if companies are trying to circumvent PBOT's auditing protocols. Large discrepancies in the results of field and Port of Portland audits could indicate the use of Greyball or other evasive technologies. PBOT analyzed its field and Port of Portland audit data for these types of discrepancies.

V.2 Review of complaints

Complaints against TNCs by customers present another potential source of evidence for the use of Greyball and other similar technologies. In examining customer complaints, PBOT staff looked for trends in the complaints received that might indicate that a significant number of customers had ordered rides, but then subsequently had those rides cancelled. PBOT also looked for complaint trends that indicated if customers routinely were not able to hail rides in specific areas of the city, especially in traditionally underserved communities or in neighborhoods with higher crime rates. Evidence of such trends could point to the use of Greyball and Greyball-like programs by TNCs.

V.3 Surveying other regulatory agencies

Finally, Regulatory Division staff sent surveys to their counterparts at sixty agencies in the United States. In conducting this survey, PBOT's goal was to compare its regulatory efforts with other jurisdictions that had experience regulating TNCs to discover if there were areas where PBOT could adopt new practices to protect consumers based on the experience of other cities. Regulatory Division staff also wanted to understand how widespread the use of Greyball and other similar techniques were.

The following agencies responded to the survey:

1. City of Chicago Department of Business Affairs and Consumer Protection (BACP)
2. Nevada Taxicab Authority
3. State of Michigan Licensing and Regulatory Affairs - CSCL
4. City of Minneapolis, Licenses and Consumer Services
5. San Francisco Municipal Transportation Agency
6. Nebraska Public Service Commission



7. City of Columbus, Ohio License Section
8. Virginia Department of Motor Vehicles
9. City of Little Rock, Arkansas
10. City of Saint Paul
11. City of Kansas City, Missouri
12. Seattle Department of Transportation
13. City of Coeur d'Alene
14. San Antonio Police Department
15. City and County of Denver
16. Philadelphia Parking Authority (PPA)
17. City of Austin, Texas - Transportation Department

VI. Findings

Based on the research, PBOT has concluded the following:

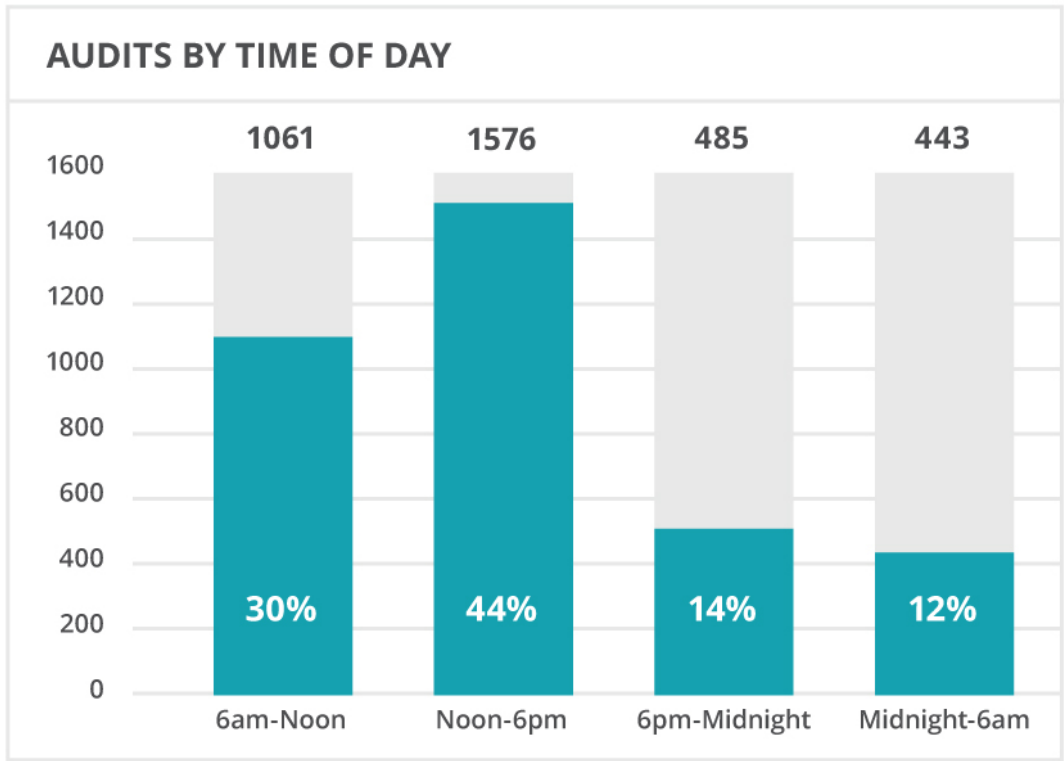
1. By its own admission, Uber used Greyball to avoid regulation by PBOT enforcement officers in December 2014. These officers remained tagged by the Greyball program until the beginning of the first 120-day pilot period in April 2015.
2. Lyft maintains that it did not use any programs to avoid audits by PBOT enforcement officers. There is no known evidence to the contrary.
3. Analysis of audit data and customer complaints since April 2015 shows no indications that either Uber or Lyft attempted to evade inspections by PBOT enforcement officers or that they blocked customers from hailing rides based on their location.
4. In comparison to other cities and regulatory agencies, PBOT has a well-developed regulatory system that provides tools to identify attempts to evade regulators.



VI.1 Field audits

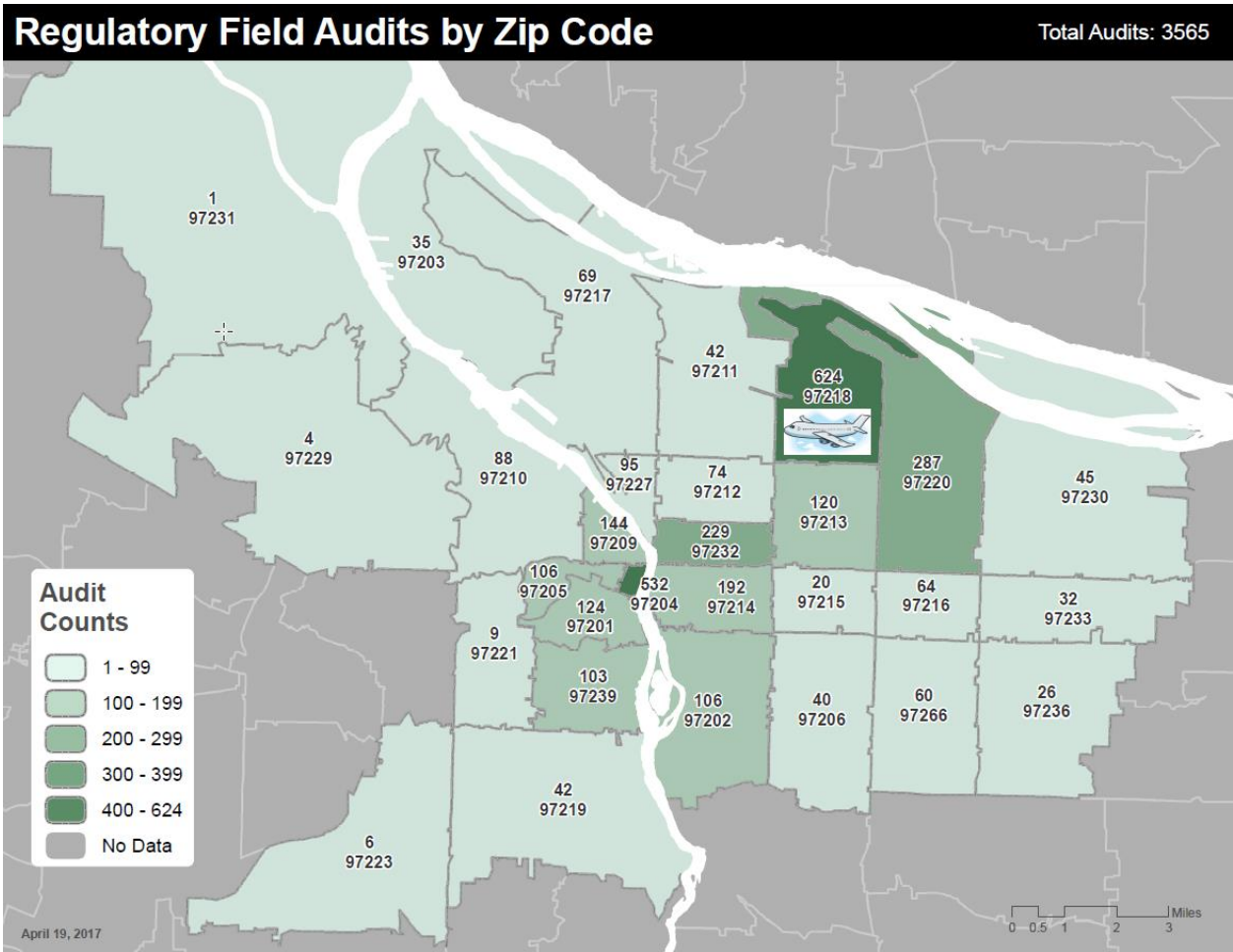
Since the beginning of the Pilot Program, PBOT’s Regulatory Division has conducted more than 3,500 field audits of all private for hire providers primarily focusing on taxi and TNC operators. Figure 1.1 below illustrates the number of taxi and TNC audits by the time of day.

Figure 1.1



Field audits are conducted throughout most of the city. The goal is to conduct audits in all zip codes, but to also focus the audits in areas of high demand. Figure 1.2 below illustrates the estimated numbers of audits by location zip code. Please note, at the beginning of the program zip codes were not collected. Zip codes were collected consistently around the middle of September 2015. The map below illustrates only the ride data that contained actual zip code data.

Figure 1.2



In figures 1.3 and 1.4 below, PBOT separated the number of the audits conducted in the City of Portland from the number of the audits conducted at the Port of Portland. From that data, the figures also display which audits were conducted on Uber and which were conducted on Lyft.

Figure 1.3

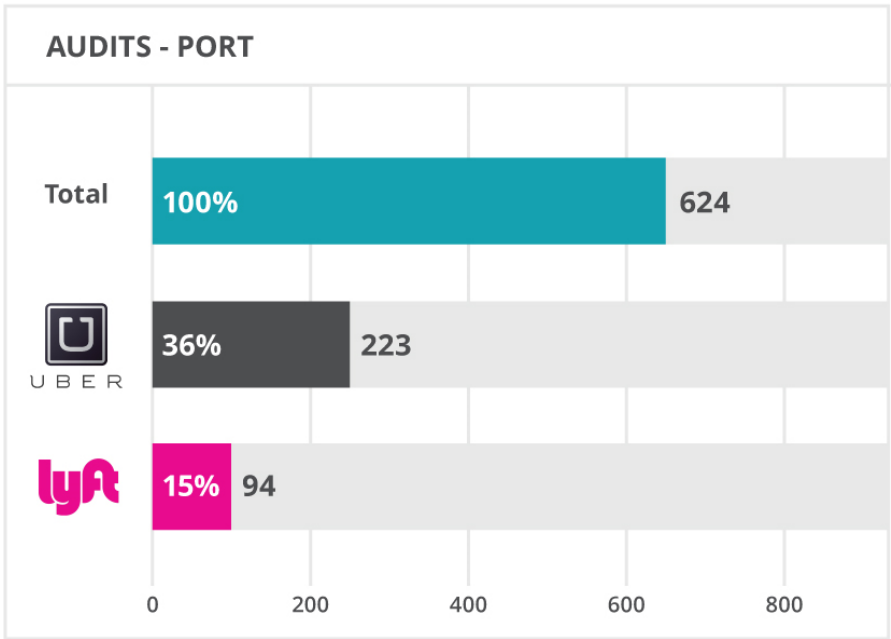


Figure 1.4

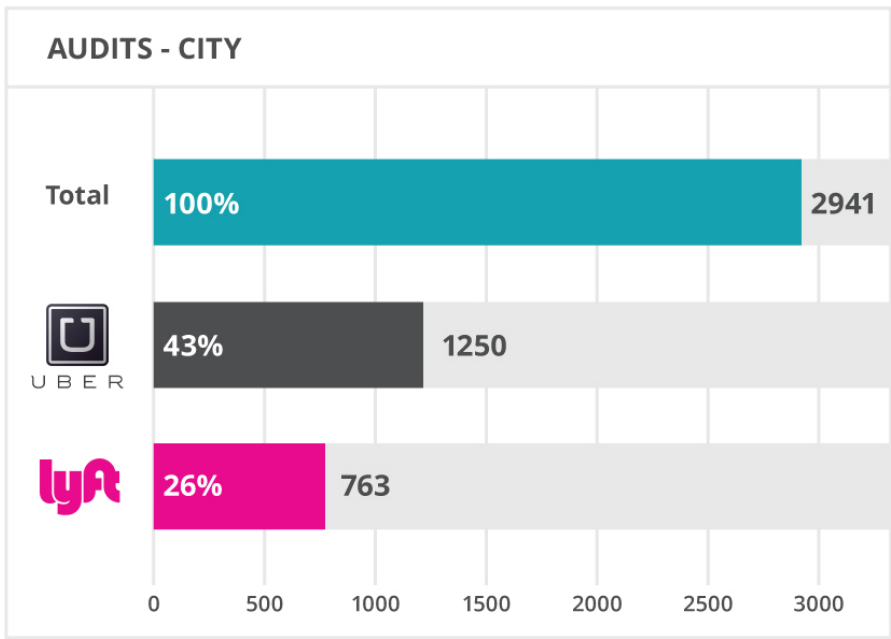


Figure 1.5 below illustrates the total number of field audits conducted on the private for hire providers in Portland and the number of field audits conducted on each Transportation Network Company throughout the city (including the Port of Portland) from April 2015 through early March 2017.

Figure 1.5

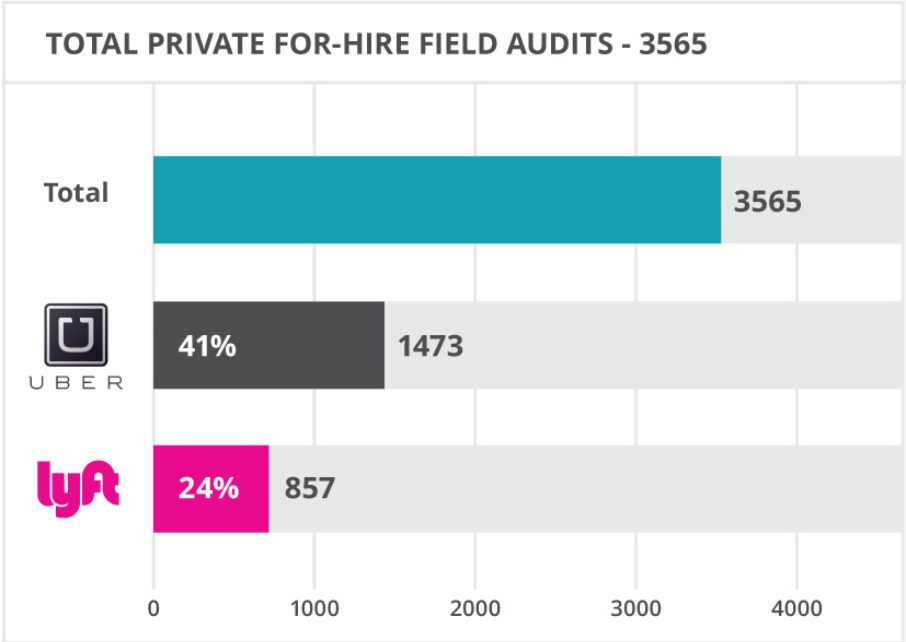


Figure 1.6 below illustrates the number of audits in which an Uber or Lyft driver did not comply with at least one item on the audit checklist. Example: any driver who did not to carry a copy of their business license would be counted as a no pass.

Figure 1.6

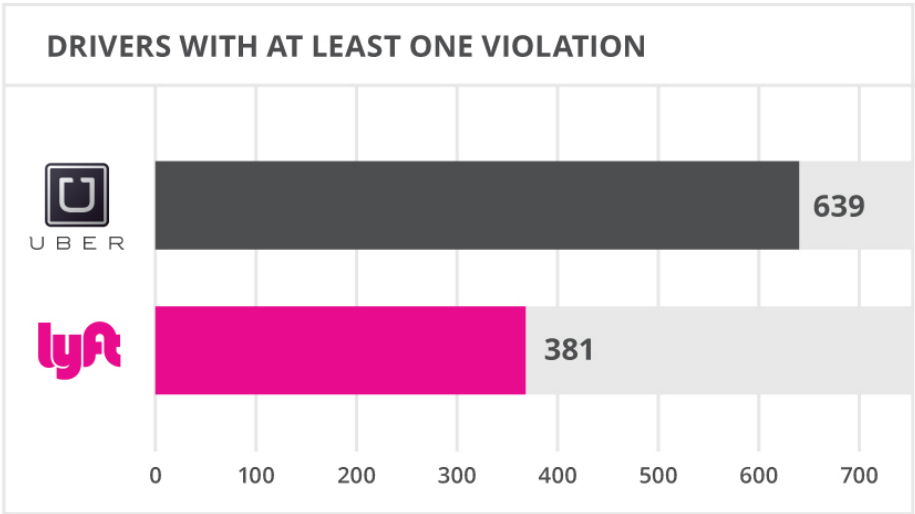
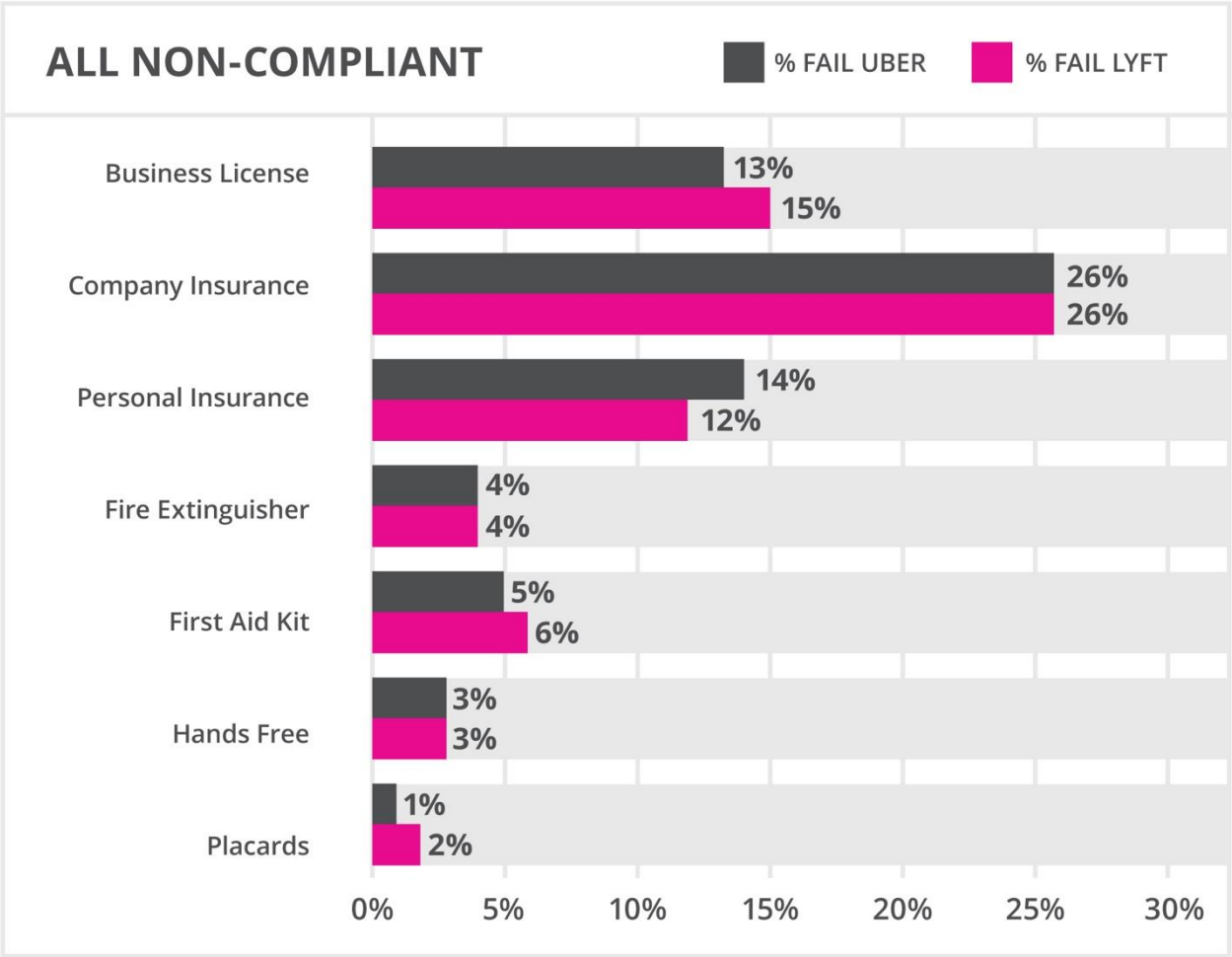


Figure 1.7 below illustrates the breakdown of the violations. Drivers found in violation often violate more than one category. For instance, during a field audit a driver might not be able to present a paper copy of the business license and not possess a paper copy of an insurance certificate.

Figure 1.7



Figures 1.8 and 1.9 below, analyze the data in two parts. Figure 1.8 shows audits and audits results from the Port of Portland where enforcement officers can conduct audits without using the mobile application, by simply walking up to a TNC driver in the staging area and conducting an audit. Figure 1.9 two shows audits conducted throughout the rest of the City where TNC drivers were requested using the mobile application.

Figure 1.8

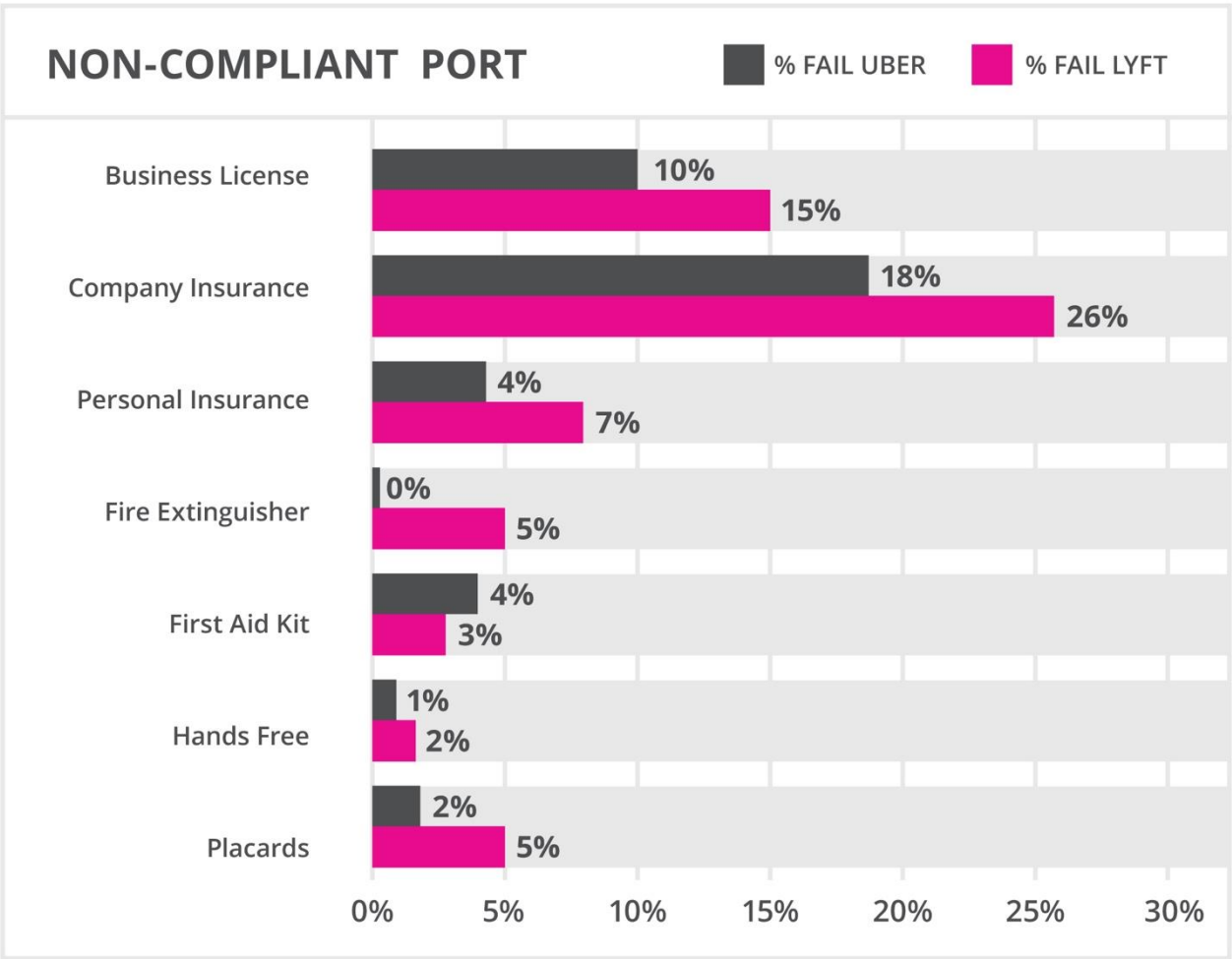
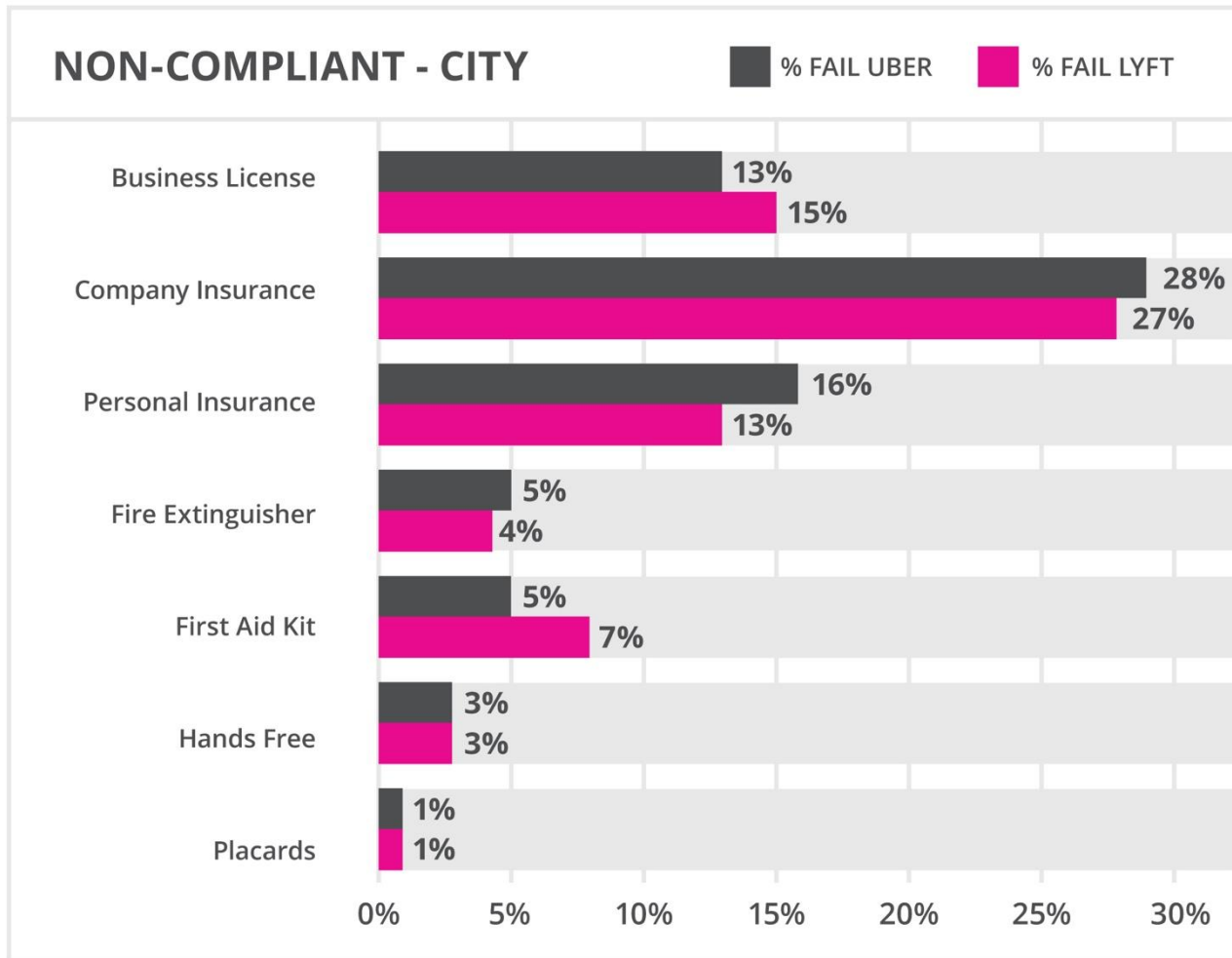


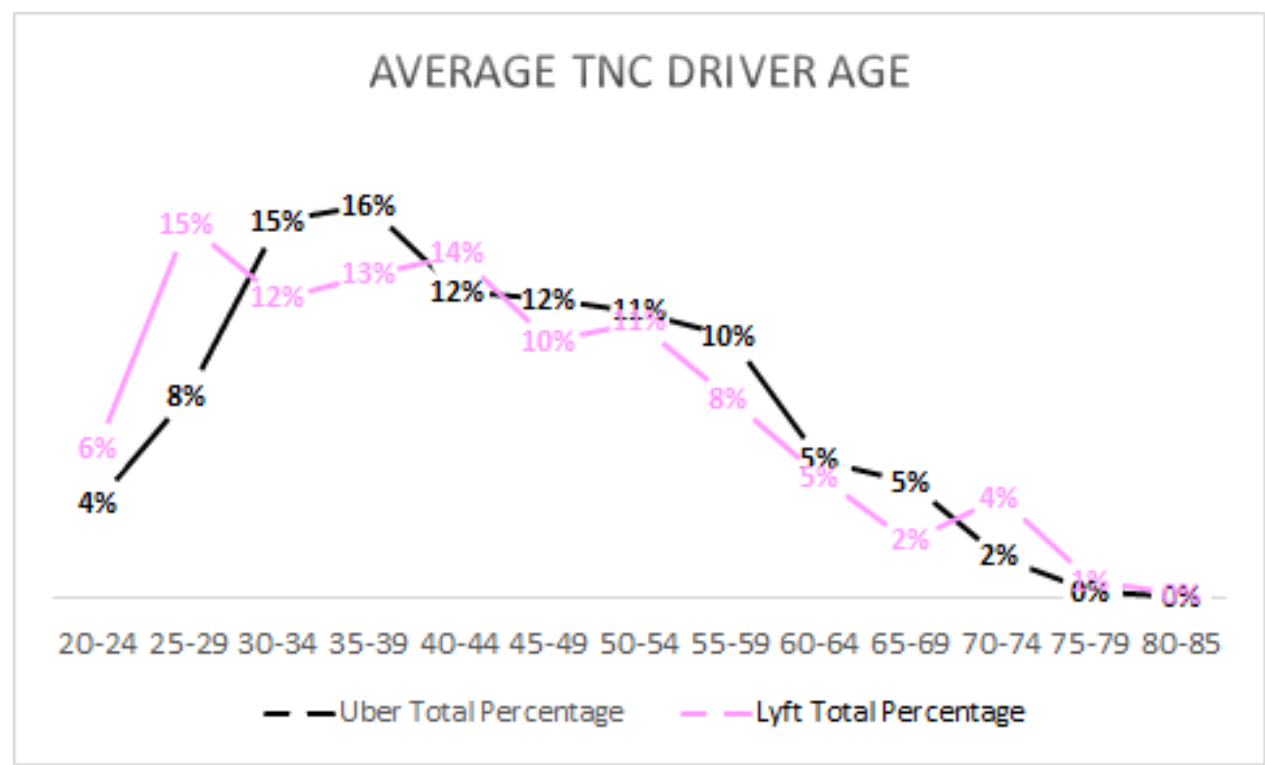
Figure 1.9

The information in Figures 1.8 - 1.9 above was analyzed to determine if TNCs dispatched better drivers to regulators in the City (controlled by the mobile application) compared to drivers audited at the Port of Portland (no mobile application required - walk-up audits at TNC staging area)³. The data suggests that the drivers audited in the citywide audits do not markedly differ from those audited at the Port of Portland in terms of what components the drivers are failing to pass or relative rates of the failure.

PBOT requested that the TNCs provide: Driver gender, age of drivers, and the driver's average rating at the time of the field audit, as well as the amount of time each driver has operated for either Uber or Lyft for both sets of field audits at the Port of Portland and the rest of the City. The companies were able to provide average range of age and length of service information. Lyft was able to provide driver rating information, but neither company could provide information regarding the gender of their drivers. Figure 2.0 illustrates the average age of the TNC drivers PBOT has audited since April 2015.

³ Airport Hold Lot(s) shall mean that area or areas designated by the Port as the area where a Permittee shall stage its Vehicles while awaiting the arrival of Airport Customers, call-up, or established service time, prior to entering the Commercial Roadway.

Figure 2.0



Next, PBOT reviewed this data by comparing the average age of the drivers audited at the Port to those audited throughout the rest of the city. Figures 2.1 and 2.2 illustrate the results of that analysis.

Figure 2.1

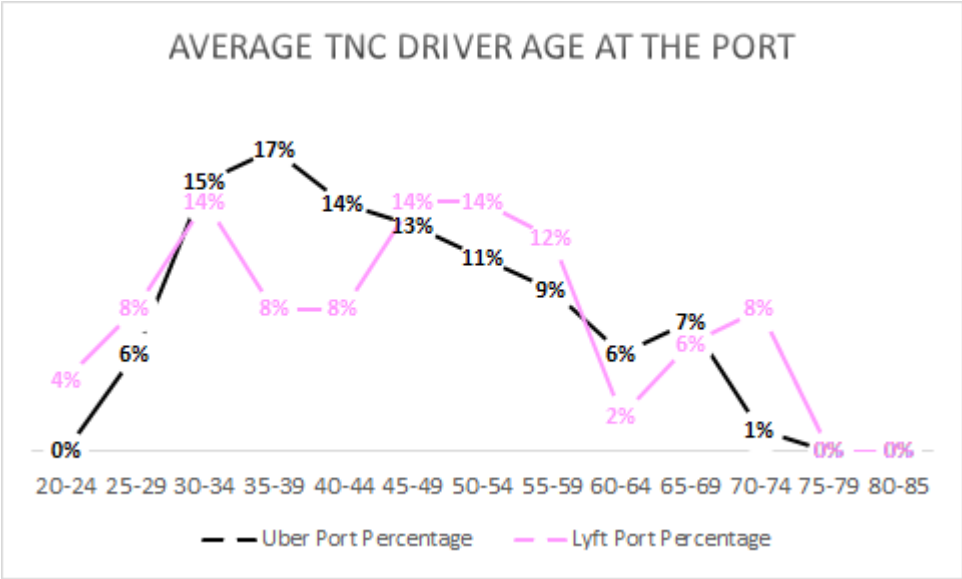
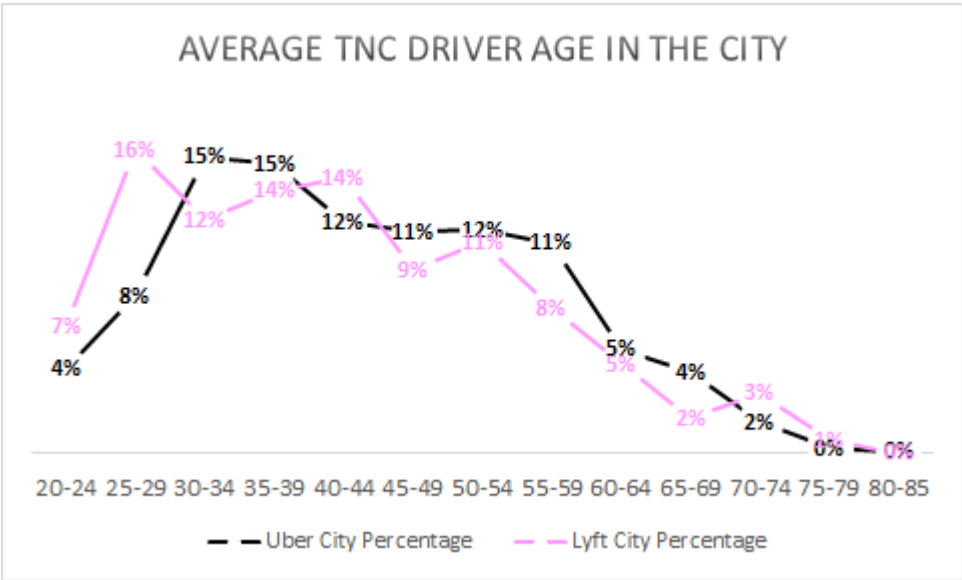


Figure 2.2



Using the same data provided above, PBOT compared the length of service of the drivers audited at the Port and at the City. Figure 2.3 and 2.4 illustrate the results found during that analysis.

Figure 2.3

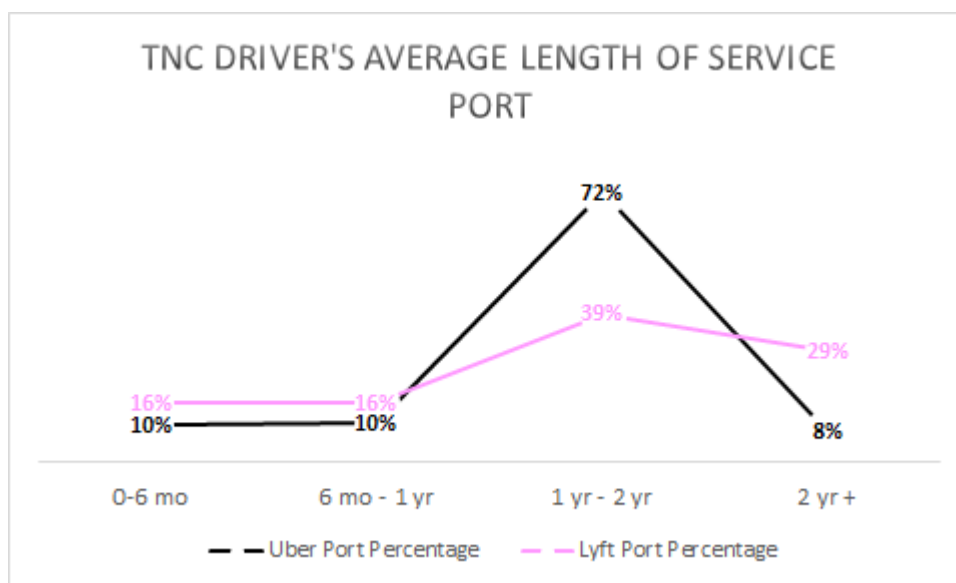
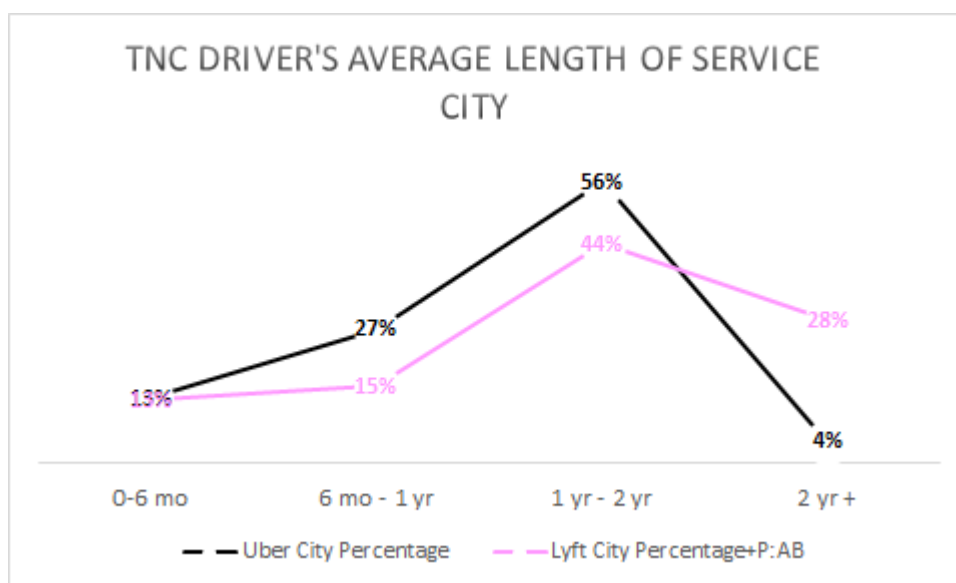


Figure 2.4



After a complete analysis and evaluation of the data above, PBOT did not find evidence that Uber or Lyft attempted to thwart enforcement efforts or attempted to send only drivers within a particular age range or with more or less driving experience to regulators conducting audits in the City. The data shows the number of fails as well as the age and service length of drivers is consistent when comparing audits at the Port with audits conducted via rides requested through mobile applications in the rest of the City.

TNC Compliance Audits

Compliance audits are random checks of drivers currently certified to drive as well as the company certification processes. Approximately once each week, a group of TNC drivers are randomly selected and all information used to determine driver eligibility is requested. This process is to determine if the TNC carefully measured each driver against the disqualifying factors defined in code. Figures 2.5 (August 2015 - June 2016) and 2.6 (July 2016 - March 2017) illustrates the results of the compliance audits. A “DMV Fail” usually involves a driver who has not had one full year of uninterrupted driving history or other driving related infraction.

Figure 2.5

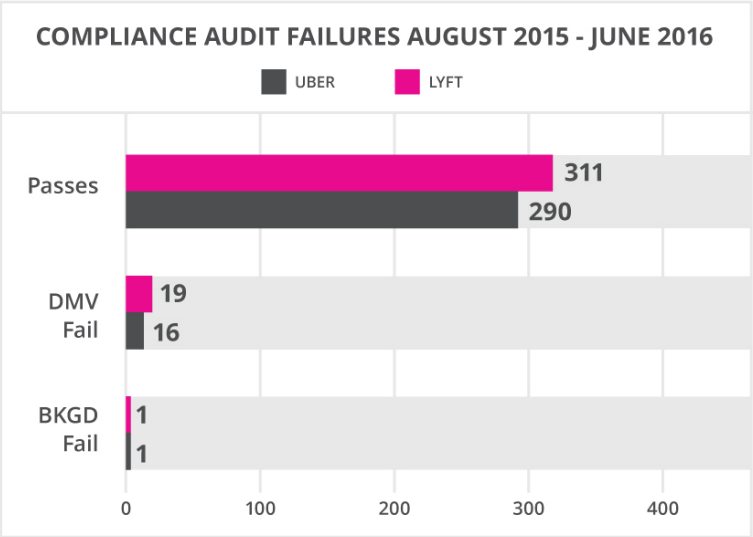
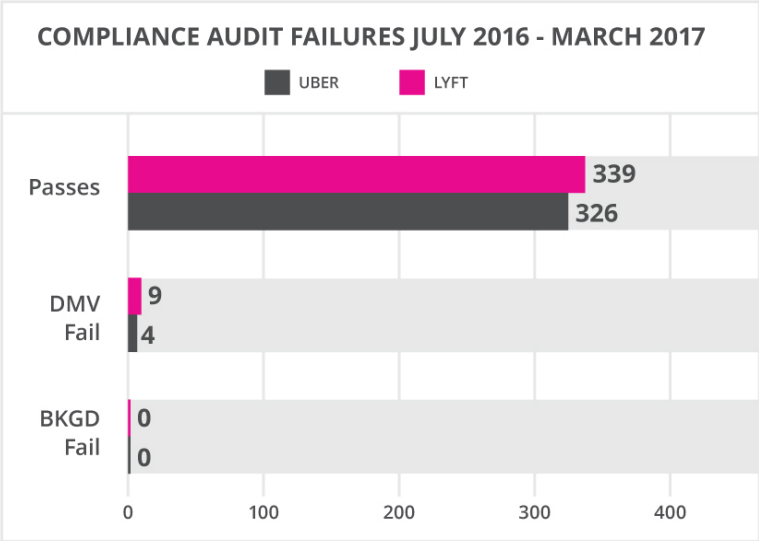


Figure 2.6



As TNC providers became more familiar with Portland’s regulatory structure and their understanding of the terminology used by the Oregon Department of Motor Vehicles(DMV) the rate of DMV failures declined (post July 2016).



V.2 Customer complaints

Complaints offer a way to inform enforcement efforts. Every complaint is reviewed by regulatory staff and action is taken when there is sufficient evidence.

Figure 2.7 below illustrates the number of Uber and Lyft complaints compared to the total number of recorded complaints (246) received collectively by the entire Portland market. The complaint numbers in Figure 2.1 represent complaints that have enough information to process at the time they are received. There are additional complaints that do not have enough information and require follow-up before enforcement action can be taken.

Figure 2.7

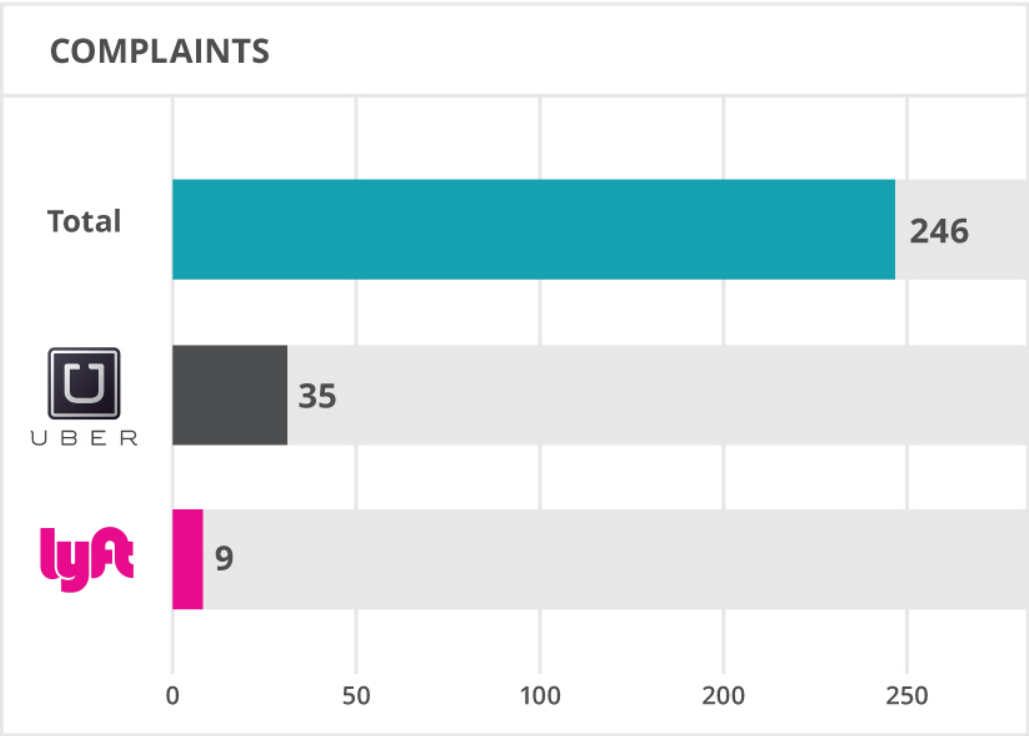


Figure 2.8 and 2.9 illustrate the complaints received by each TNC (Uber & Lyft) categorized by type.

Figure 2.8

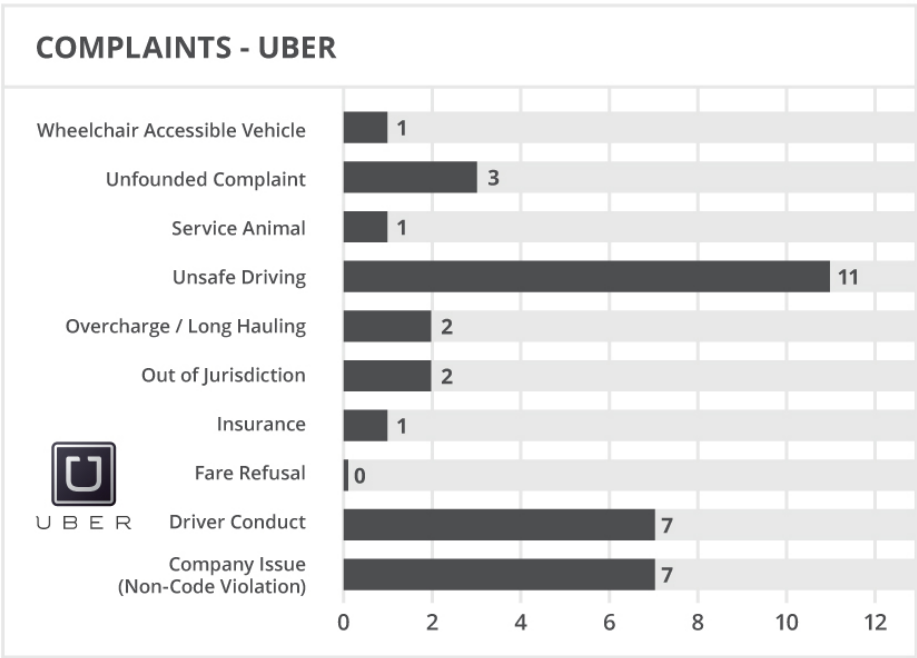
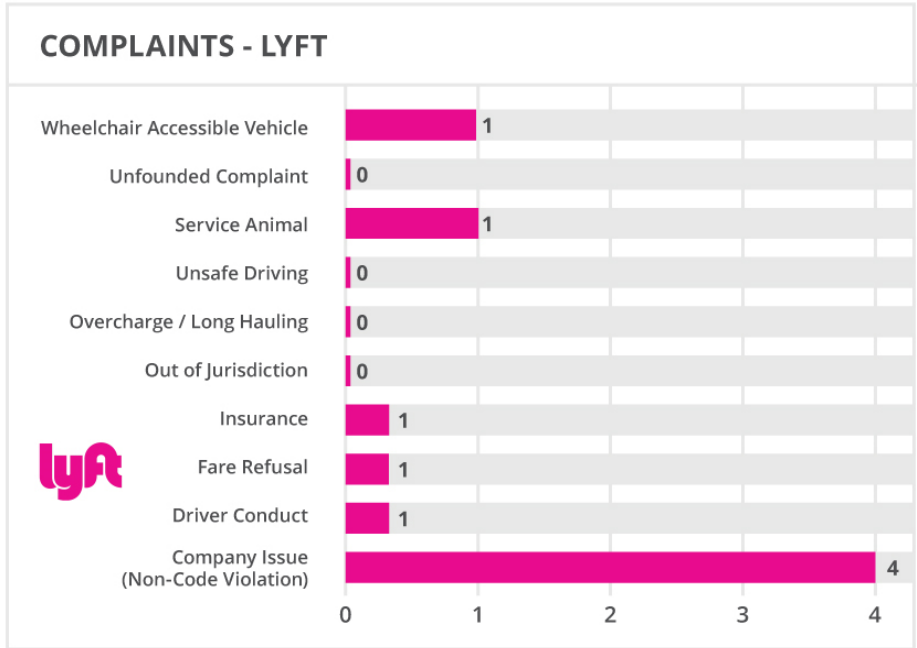


Figure 2.9



Beginning in late November 2016, every driver and company that could be identified through a complaint received a letter from the Regulatory Division regarding the nature of the complaint reported against them. When complaints involved unsafe driving behavior, the letter would include safety tips and links to the City's Vision Zero website. Many complaints lack the relevant information required to take action and/or respond.

VI.3 City Survey Results

As mentioned earlier in the report, seventeen agencies responded to PBOT's survey. In the majority of the jurisdictions represented by the agencies, have been operating between 12 and 30 months. In one jurisdiction, TNCs have operated seven years and in one other they have only been in operation since March 2017.

PBOT asked these agencies if they have ever suspected TNCs of using Greyball or any other software programs to block, delay or deter regulators from performing official functions. As shown in figure 3.0 below, seven of the 17 agencies surveyed **suspected** Greyball use, while four agencies (figure 3.1) stated that they **have evidence** of such tactics. One agency reported that they only have anecdotal evidence, but felt that drivers took twice as long to show up for regulators during undercover inspections. The other agencies cities believe that their enforcement teams and/or police officers have been blocked from or deceived by the application during enforcement efforts.

Figure 3.0

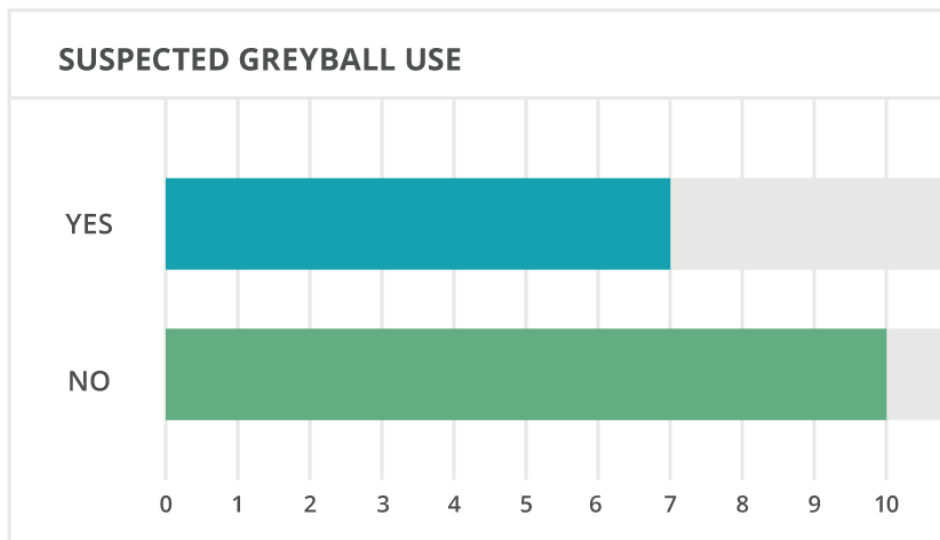
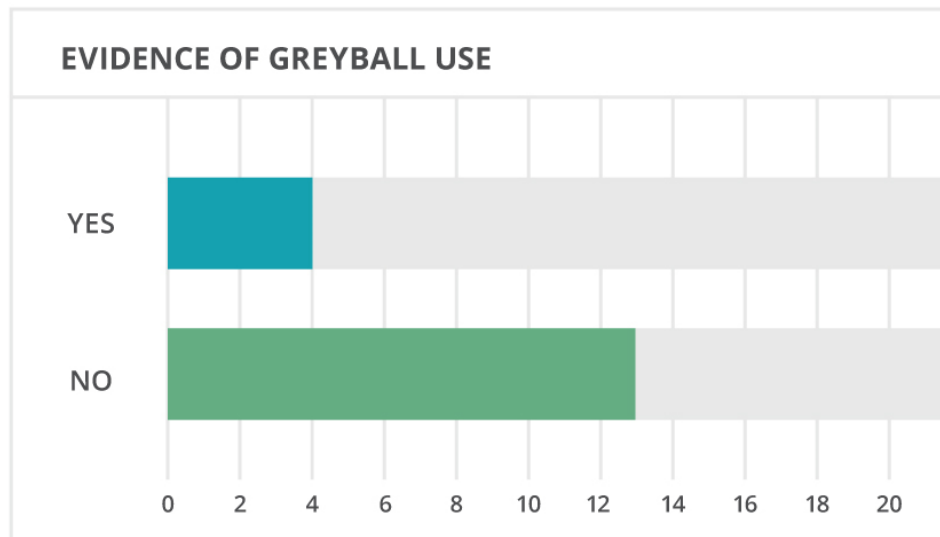


Figure 3.1



The ability to collect and analyze data is extremely important to regulatory efforts. Data can be used by an agency to enforce regulations, identify demand patterns, and alert officials regarding any major changes in the market and potentially be a signal that an operator is engaged in unlawful activities including those associated with Greyballing. PBOT asked the agencies what types of data they collect from the TNCs. Only seven out of the 17 agencies collect data. Table 3.2 illustrates the types of data collected by the seven agencies.

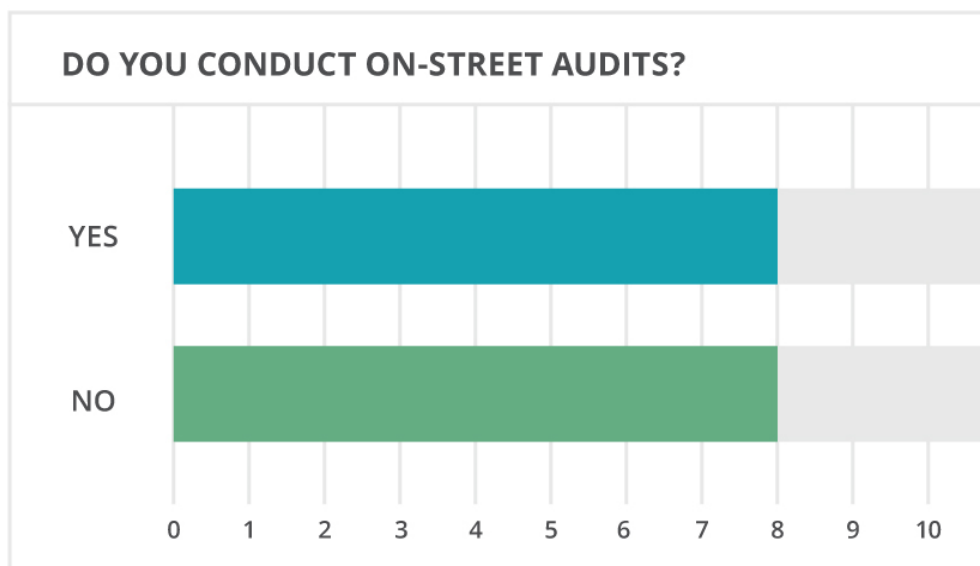
Table 3.2 - Data Collected

| Answer Choices | Responses |
|--------------------------------------------------------------------------------------------------------|-----------|
| Number of rides | 71.43% 5 |
| Date and time of rides | 14.29% 1 |
| Ride origin | 57.14% 4 |
| Ride ending point | 42.86% 3 |
| Wait time (the time between when the rides were requested and the time it arrived) | 0.00% 0 |
| Trip duration | 28.57% 2 |
| Number of rides canceled by driver | 14.29% 1 |
| Number of rides canceled by passenger | 0.00% 0 |
| Number of rides that were canceled because company couldn't fulfill the request due to lack of vehicle | 28.57% 2 |
| Total Respondents: 7 | |

From the seven agencies that collect data from the TNCs, PBOT asked if they have a procedure in place to verify the data they receive. Two agencies affirmed that they have such a procedure in place, but their subsequent comments suggested that any data analysis is minimal at best.

PBOT asked if the agencies conduct on-street audits or inspections of the TNCs. As shown in Figure 3.3, eight of the 17 agencies responded with a “yes” to this question.

Figure 3.3



For those agencies that conducted field audits, PBOT followed up with a question regarding the frequency of such audits. The following is a summary of each response received:

- Agency 1 - City public vehicle inspectors will perform compliance checks on TNC vehicles on the street. As the ordinance is new, a year to year comparison of averages is not realistic.
- Agency 2 - Did not comment.
- Agency 3 - Average of 240 per year.
- Agency 4 - We conduct random inspections of all vehicle for-hire companies we regulate. With regard to TNC's, we check to see if the driver has a current driver's certificate and the vehicle has a current vehicle permit as both are required to operate.
- Agency 5 - Two to three audits per year. 100 undercover inspections per year
- Agency 6 - 10 Uber rides per month or 120 Uber rides per year. 10 Lyft rides per month or 120 Lyft rides per year.
- Agency 7 - We began performing on street inspections in March 2017. Approximately 30 inspections have been done thus far.
- Agency 8 - Our inspections are limited to checking for TNC trade dress.

VI.4 Data and Information Provided by Uber and Lyft

In response to Mayor Wheeler and Commissioner Saltzman's March 15, 2017 letter requesting further information from Uber and Lyft, Lyft denied having used such an application in the City of Portland, thus responding only to request number 8 (Exhibit C). Uber has partially complied.

In its response (Exhibit H), Uber admitted that it used Greyball to tag 17 individual rider accounts during a two-week period in December 2014. There were a total of 29 ride requests affected by Greyball in Portland.

As the agency responsible for ensuring the safety of TNC customers and the integrity of the TNC market, PBOT views Uber's failure to comply with deep concern. This failure calls into question Uber's commitment to comply in general with the City of Portland's regulatory framework. It also raises questions about Uber's ability to be a trustworthy partner in PBOT's efforts to ensure that Portland's TNC customers receive safe and reliable service.

Summary of Lyft and Uber responses:

Lyft:

In a letter dated March 27, 2017 Lyft responded offering the following statement:

"With respect to the questions and requests for data set forth in your letter, as stated above Lyft has never used or caused to be used any software or software applications similar to the one known as Greyball or Violation of Terms of Service. We have never attempted to detect and evade Portland city officials or otherwise prevent them from accessing transportation by a Lyft driver. Nor have we ever used technology or any other means to hide the standard view for individual riders or show riders different versions of our user interface. With regard to your first seven requests for data, we did not engage nor will we engage in the future in any practice like Uber's Greyball or Violation of Terms of Service, and therefore do not have any documents relating to such practices."

In regards to the City's request for the age, service rating and length of service of all Lyft drivers audited by the City, Lyft provided all the requested data.

Uber:

In a letter dated March 28, 2017 (Exhibit D), Uber's legal counsel responded to the City's initial request stating that Uber intended to respond and provide information requested by the City.

In a letter dated April 7, 2017 (Exhibit E), the City received an initial response from Uber's legal counsel; however, the response did not contain all the information requested by the City.

In a letter dated April 10, 2017 (Exhibit F) Uber responded to the request for the age, service rating and length of service of all Uber drivers audited by the City, by providing the requested driver-partner demographic data for those drivers who had been subjected to PBOT field

compliance audits. However, in a letter dated April 10, 2017 (Exhibit F), Uber stated that they could not provide “driver rating data” as they do not maintain historical data specific records of driver-partner service ratings.

In a letter dated April 11, 2017 (Exhibit G), the City responded to Uber letter dated April 7, 2017 (Exhibit E), stating that Uber response was incomplete and specifically directing them to respond to the four questions and eight information requests in Commissioner Saltzman and Mayor Wheeler’s March 15 letter (Exhibit A).

In a letter dated April 21, 2017 (Exhibit H), Uber’s counsel provided their second response. In this response, the company admits to having used the Greyball software in Portland for a two-week period, from December 5, 2014 thru December 19, 2014 against 17 individual rider accounts.

The records provided by Uber show that 3 of those individual riders actively requested and were denied rides on the Uber platform. The Greyball tags were all removed by April 24, 2015, the first day of the first 120-day pilot. Uber stated that the Greyball technology in Portland has not been used at any time “during or since the implementation of Portland’s TNC regulations and pilot program in April 2015”, and have stated that they will never engage in a similar effort to evade regulators in the future.

VII. Conclusion & Recommendations

During this investigation, PBOT performed an exhaustive review of the information gathered through audits, inspections, data provided by TNCs and information provided through its survey of other regulatory agencies. To reiterate, this review has produced the following findings:

1. By its own admission, Uber used Greyball to avoid regulation by PBOT enforcement officers in December 2014. These officers remained tagged by the Greyball program until the beginning of the first 120-day pilot period in April 2015.
2. Lyft maintains that it did not use any programs to avoid audits by PBOT enforcement officers. There is no known evidence to the contrary.
3. Analysis of audit data and customer complaints since April 2015 shows no indications that either Uber or Lyft attempted to evade inspections by PBOT enforcement officers or that they blocked customers from hailing rides based on their location.
4. In comparison to other cities and regulatory agencies, PBOT has a well-developed regulatory system that provides tools to identify attempts to evade regulators.

After PBOT initiated this investigation, the City of Portland was notified by the United States Attorney of the Northern District of California that Uber is the subject of a federal inquiry. The City of Portland is cooperating with this on-going probe.

Based on its investigation, PBOT would also recommend the following changes to the current Transportation Network Company and Taxi Code

- Strengthen language in the Transportation Network Company & Taxi Code to make it clear any attempt to deceive and evade City Officials will result in fines, suspension or

revocation of operating permit.

- Strengthen language in the Transportation Network Company & Taxi Code to make it clear any attempt to discriminate against riders on the basis of race, gender, sex or zip code will result in fines, suspension or revocation of operating permit.

PBOT would also recommend the following changes to the current regulatory program

- Increase enforcement capacity.
- Invest in advanced technology that allows PBOT to capture real-time data to improve our enforcement efforts.
- Continue to aggressively pursue open and accessible data.

Transportation Network Companies protect information for reasons of driver and rider privacy and trade secrets. At their core, TNCs perceived themselves as data companies and not transportation companies which presents unique challenges for regulatory agencies. Communities across the country will need to continue to collaborate to find innovative solutions for effective regulation of this segment of the for-hire industry. In order to be responsible corporate partners, the TNCs must seek out opportunities to cooperate with regulators and support thoughtful regulations that facilitate a free and fair market and ensure safe, reliable and accessible transportation for consumers.

Exhibit A



City of Portland

March 15, 2017

Sent VIA Certified Mail
Return Receipt Requested

Travis Kalanick
Uber Technologies Inc.
Attn: Nancy Allred / Rachel Pojunas
1455 Market Street, 4th floor
San Francisco, CA 94103

Dear Mr. Kalanick:

In 2014, when Uber Technologies Inc. and any or all of its subsidiaries ("Uber") entered Portland's private for-hire transportation market without a permit to operate, our code enforcement officers experienced what appeared to be intentional avoidance of City regulators by Uber and its drivers. We are extremely alarmed to learn that Uber created and deployed a comprehensive software application, "Greyball," with the purpose of evading regulators, as reported on Friday, March 3, 2017 by the New York Times¹.

The City of Portland takes the alleged use of the Greyball software in our city very seriously. We are conducting an investigation to determine if and when this practice was employed since Uber began operating in Portland and whether it has been employed in any manner against any consumer. As part of our investigation, we request a written response to the following questions no later than the close of business on Friday, March 31, 2017:

1. At any time to present, did you use or cause to be used any software or software application known as Greyball or Violations of Terms of Service ("VTOS") or by any other name or acronym designed to detect government officials and/or government regulators and/or competitors and/or those deemed safety risks and/or any other persons seeking to use the Uber application whom Uber wanted to screen out or detect or otherwise prevent from accessing transportation by an Uber driver?
2. Please describe in detail all uses of any such software from at any time to present.

¹ "How Uber Deceives the Authorities Worldwide," <https://www.nytimes.com/2017/03/03/technology/uber-greyball-program-evade-authorities.html>

1221 SW Fourth Avenue ♦ Portland, Oregon 97204



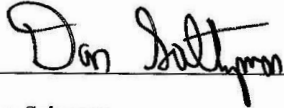
the time of the audit. Portland Bureau of Transportation's Regulatory Division will provide you a list of audited drivers.

Currently, Uber is required to provide data to PBOT on a monthly basis pursuant to Portland City Code 16.40.240 J. 1. and subject to a Data Insights Agreement. The information requested above is pursuant to the following Code provisions:

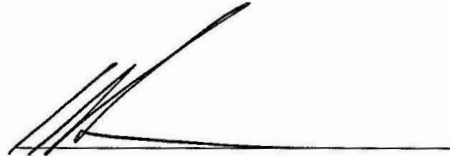
- PCC 16.40.240 J. Data Requirements: 5. Upon request, the TNC shall provide data identified by the Director to verify compliance with requirements pursuant to Chapter 16.40.
- PCC 16.40.240 L. TNC Record Management and Mandatory Compliance: 2. TNCs shall submit to compliance audits and enforcement actions upon request by the Director, any authorized city personnel or law enforcement officer pursuant to Chapter 16.40.

In addition, we require a commitment, in writing, that Uber and its partners and drivers will never use Greyball or any similar software tool to evade regulators now or in the future. Failure to cooperate with this investigation may result in the suspension or revocation of your permit to operate in the City of Portland.

Sincerely,



Dan Saltzman,
Commissioner-in-Charge
Portland Bureau of Transportation



Ted Wheeler,
Mayor
City of Portland

Exhibit B



City of Portland

March 15, 2017

Sent VIA Certified Mail
Return Receipt Requested

Logan Green
Lyft, Inc.
Attn: Brett Collins
185 Berry St.
Suite 5000
San Francisco, CA 94107

Dear Mr. Green:

In 2014, when Uber Technologies Inc. and any or all of its subsidiaries ("Uber") entered Portland's private for-hire transportation market without a permit to operate, our code enforcement officers experienced what appeared to be intentional avoidance of City regulators by Uber and its drivers.

We understand that there is no evidence to suggest that Lyft engaged in any of these activities, or used a software application similar to "Greyball," with the purpose of evading regulators. However, we are conducting an investigation to determine if and when this practice was employed and we are including Lyft in our inquiry. Therefore, as part of our investigation, we request a written response to the following questions no later than the close of business on Friday, March 31, 2017:

1. At any time to present, did you use or cause to be used any software or software application similar to the one known as Greyball or Violations of Terms of Service ("VTOS") or by any other name or acronym designed to detect government officials and/or government regulators and/or competitors and/or those deemed safety risks and/or any other persons seeking to use the Lyft application whom Lyft wanted to screen out or detect or otherwise prevent from accessing transportation by a Lyft driver?
2. Please describe in detail all uses of any such software from at any time to present.
3. Please describe in detail all information provided by Lyft to its drivers using either the regular Lyft software application(s) or any software application(s) described in Paragraph 1 above.

1221 SW Fourth Avenue ♦ Portland, Oregon 97204



4. Please describe in detail all uses of Lyft technology to hide the standard city app view for individual riders, enabling Lyft to show that same rider a different version.

We also request the following data no later than the close of business Friday, March 31, 2017:

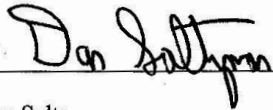
1. Any and all documents created or possessed at any time relating to any software or software application associated with or similar to Greyball.
2. Any and all documents created or possessed at any time showing how Lyft or Lyft partners or drivers can “block” or restrict access to transportation services provided by a Lyft partner or driver when any person seeks to access such transportation services. Any and all documents discussing the use of any software or software application similar to Greyball or targeted at VTOS or City Code.
3. Any and all documents created or possessed at any time evidencing, relating, or referring to any methods by which any City of Portland employee or consumer has been blocked or restricted from accessing transportation services from a Lyft partner or driver.
4. Any and all documents created or possessed at any time constituting, evidencing, relating, or referring to any Lyft policies and/or practices and/or requirements and/or contract terms regarding a partner or driver’s ability to decide, or basis for deciding, to accept or reject transportation requests made through a Lyft software application. This request specifically includes, but is not limited to, any documents evidencing, relating or referring to the information provided to Lyft partners or drivers regarding customers seeking to access Lyft transportation services.
5. Any and all documents created or possessed at any time evidencing, constituting, describing or referring to any and all algorithms or software used by Lyft to alter or substitute the application viewed by potential customers or City employees from the usual, customary or normal Lyft software application.
6. Any and all documents created or possessed at any time constituting, evidencing, relating or similar to the so-called “Greyball Playbook.”
7. Any and all documents created or possessed at any time relating or referring to software or tactics intended to evade regulators.
8. The approximate age of audited partners or drivers reported in five (5) year increments, the driver’s service rating at the time of the audit and the length of service with Lyft at the time of the audit. Portland Bureau of Transportation’s Regulatory Division will provide you a list of audited drivers.

Currently, Lyft is required to provide data to PBOT on a monthly basis pursuant to Portland City Code 16.40.240 J. 1. and subject to a Non-Disclosure Agreement. The information requested above is pursuant to the following Code provisions:

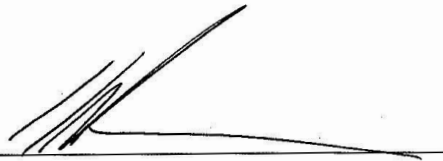
- PCC 16.40.240 J. Data Requirements: 5. Upon request, the TNC shall provide data identified by the Director to verify compliance with requirements pursuant to Chapter 16.40.
- PCC 16.40.240 L. TNC Record Management and Mandatory Compliance: 2. TNCs shall submit to compliance audits and enforcement actions upon request by the Director, any authorized city personnel or law enforcement officer pursuant to Chapter 16.40.

In addition, we require a commitment, in writing, that Lyft and its partners and drivers will never use a software tool to evade regulators now or in the future. Failure to cooperate with this investigation may result in the suspension or revocation of your permit to operate in the City of Portland.

Sincerely,



Dan Saltzman,
Commissioner-in-Charge
Portland Bureau of Transportation



Ted Wheeler,
Mayor
City of Portland

Exhibit C



185 Berry Street
Suite 5000
San Francisco, CA 94107

March 27, 2017

VIA OVERNIGHT MAIL

The Honorable Dan Saltzman
Commissioner-in-Charge
Portland Bureau of Transportation
The Honorable Ted Wheeler
Mayor
City of Portland

Dear Mayor Wheeler and Commissioner Saltzman:

Thank you for your letter of March 15, 2017 expressing concerns regarding reports that Uber deliberately evaded Portland code enforcement officers through use of software known as “Greyball.”¹ We understand you are concerned to know whether Lyft ever engaged in similar activities. The answer is no: Lyft has never used anything like Greyball and has never deliberately attempted to evade Portland’s city officials through the use of software or in any other manner. Nor will we do so in the future. To the contrary, Lyft has worked cooperatively with the City of Portland and will continue to do so.

Introduction

Lyft works every day to ensure the trust of drivers and passengers on our platform, and we also strive to build trust among the policymakers and regulators wherever we operate. Rather than evade City officials, we engaged with them. Indeed, prior to launching in Portland, we collaborated with the City’s policymakers and regulators to explain our ridesharing model and the public safety tools we developed for our platform. In the summer of 2014, November 2014 and December 2014, Lyft met with Commissioner Steve Novick and Mayor Hales and his staff to introduce the ridesharing model and thereafter maintained continuous lines of communication with these officials. Starting in February 2015, Lyft participated in Portland’s Private For-Hire Transportation Innovation Task Force to address proposed rules for operations and continued to engage up until the City’s authorization of a pilot program in April 2015.

¹ Note that the only information we have about “Greyball” comes from recent articles in the New York Times and Washington Post.



In contrast to Uber, Lyft did not launch operations in Portland until after the City authorized a Pilot Program in April 2015. Moreover, we have maintained an open line of communication with regulators since permanent ridesharing regulations were promulgated in Portland and have complied with extensive audits by the Portland Bureau of Transportation. Lyft also sits on the Private For-Hire Transportation Advisory Committee and spends a substantial amount of time engaging on issues affecting the entire for-hire transportation industry.

Requests for Information and Data

With respect to the questions and requests for data set forth in your letter, as stated above Lyft has never used or caused to be used any software or software applications similar to the one known as Greyball or Violation of Terms of Service. We have never attempted to detect and evade Portland city officials or otherwise prevent them from accessing transportation by a Lyft driver. Nor have we ever used technology or any other means to hide the standard view for individual riders or show riders different versions of our user interface. With regard to your first seven requests for data, we did not engage nor will we engage in the future in any practice like Uber's Greyball or Violation of Terms of Service, and therefore do not have any documents relating to such practices.

Your eighth request for data asks us to provide you (with respect to a list of audited drivers) the approximate age of audited drivers reported in five year increments, the driver's service rating at the time of the audit and the length of service with Lyft at the time of the audit. We will provide this information under separate cover, as the data we provide is subject to a non-disclosure agreement.

Conclusion

Thank you for the opportunity to share with you our commitment to cooperating with you and other members of the regulatory community, and to ensuring public confidence in our platform.

Sincerely,



Joseph Okpaku
VP, Government Relations

Exhibit D

1099 NEW YORK AVENUE NW SUITE 900 WASHINGTON, DC 20001-4412

JENNER & BLOCK LLP

March 28, 2017

Thomas J. Perrelli
Tel +1 202 639 6004
TPerrelli@jenner.com

Kenneth McGair
Office of the City Attorney
1221 SW 4th Avenue Room 430
Portland, OR 97204

Dear Mr. McGair:

This letter provides an interim status update to the March 15, 2017 letter from Mayor Wheeler and Commissioner-in-Charge Saltzman to Uber Technologies Inc. As we discussed on March 24, 2017, my firm is representing Uber in connection with this matter.

Uber appreciates the productive relationship that it has had with the City of Portland and the Bureau of Transportation, and intends to provide information in response to the City's inquiry following published reporting of Uber's use of the so-called "Greyball" technology. The technology in question hides the standard city application view for individual riders, enabling Uber to show that same rider a different version. Uber has used Greyball technology for many purposes, including the testing of new features by employees, marketing promotions, fraud prevention, to protect its driver partners from physical harm, and to deter riders from using the app in violation of Uber's Terms of Service. As you know, Uber has expressly prohibited the technology's use to target action by local regulators going forward. Given the way Uber's systems are configured, it will take some time to ensure this prohibition is fully enforced.

Uber has commenced a review of the use of the technology in different markets, including in Portland. As we discussed, this review is proceeding. We will prioritize our review, in the first instance, of whether the Greyball technology was used in connection with local regulators following implementation of Portland's pilot program in April of 2015. We anticipate being able to provide an initial response to the Mayor and Commissioner-in-Charge no later than April 7, 2017. Following that initial response, which we hope will address the priority issues the City has raised, we would like to discuss the scope of the remainder of the requests and a schedule for a further response.

Please do not hesitate to call me if you would like to discuss these issues.

Sincerely,



Thomas J. Perrelli

cc: Candace Kelly

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Exhibit E

1099 NEW YORK AVENUE, NW SUITE 900 WASHINGTON, DC 20001-4412

JENNER & BLOCK LLP

April 7, 2017

Thomas J. Perrelli
Tel +1 202 639 6004
TPerrelli@jenner.com

The Honorable Ted Wheeler
Portland City Hall
1221 SW Fourth Avenue
Portland, Oregon 97204

The Honorable Dan Saltzman
Portland Bureau of Transportation
1120 SW Fifth Avenue
Portland, Oregon 97204

Re: Uber Technologies Inc.

Dear Mayor Wheeler and Commissioner-in-Charge Saltzman:

On behalf of Uber Technologies Inc., this letter provides an initial response to your March 15, 2017 inquiries regarding Uber's use of the so-called "Greyball" technology in Portland. Pursuant to our discussions with the Office of the City Attorney, this initial response focuses on an issue that the City has prioritized: whether the Greyball technology was used in connection with local regulators following implementation of Portland's pilot program in April 2015.

As we discussed in our prior letter to the City Attorney's office, Uber has commenced an internal review of the use of Greyball technology, which is used for many purposes and can have the effect of hiding the standard city app view for an individual rider, enabling Uber to show that same rider a different version. As part of that review, we have prioritized the issues that the Office of the City Attorney identified. To date, we have interviewed Uber employees with knowledge of Uber's operations in the Portland market during the relevant time period, done a targeted review of certain potentially relevant internal Uber documents related to Portland, and reviewed Uber data concerning certain Portland user accounts that we have identified as possibly being associated with regulators. While our investigation is ongoing and we will inform the City if this conclusion changes, our review indicates that Uber did not use the Greyball technology with respect to regulators in Portland at any time during or since the implementation of Portland's pilot program in April 2015.

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Hon. Tom Wheeler and Hon. Dan Saltzman
April 7, 2017
Page 2

We will provide a further update when our review is complete. In addition, Uber is finalizing a production of documents that relate to audits conducted by the Bureau of Transportation, and expects to be in a position to provide those materials next week. Uber is available at your convenience to discuss the scope of the City's remaining requests along with a schedule for Uber's further response.

Please do not hesitate to call me with any questions.

Sincerely,



Thomas J. Perrelli



Exhibit F

1099 NEW YORK AVENUE, NW SUITE 900 WASHINGTON, DC 20001-4412

JENNER & BLOCK LLP

April 10, 2017

Thomas J. Perrelli
Tel +1 202 639 6004
TPerrelli@jenner.com

Kenneth McGair
Office of the City Attorney
1221 SW 4th Avenue Room 430
Portland, OR 97204

Re: Uber Technologies Inc.

Dear Mr. McGair:

This letter is in further response to the March 15, 2017 letter from Mayor Wheeler and Commissioner-in-Charge Saltzman.

In conjunction with this letter and in response to Request No. 8 of the March 15 Letter, Uber is providing, via its secure ftp site, a spreadsheet containing the approximate age (in 5-year increments) and length of service for over 1,329 (97.4%) of the records identified by PBOT in the list of audited driver-partners provided to us. The spreadsheet contains age and length of service information for all but 24 of the driver-partners and 36 of the records identified by PBOT. The information for these 24 driver-partners was not as readily available because of changes in the driver's profile since the audit date that make the driver harder to identify (e.g., the driver-partner moved out of state, resulting in changes in driver's license number or license plate number); we will provide this missing information as promptly and to the extent possible. For at least seven records, not enough information was provided by PBOT to identify the driver.

We are not able to provide, however, as requested in Request No. 8, the service rating of the driver at the time of audit because driver-partner ratings are updated automatically as each driver receives new ratings. Due to the iterative nature of the rating process, we do not maintain historical, date-specific records of a driver-partner's service rating.

Please do not hesitate to call me with any questions.

Sincerely,



Thomas J. Perrelli

CHICAGO LONDON LOS ANGELES NEW YORK WASHINGTON, DC

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Exhibit G



CITY OF
PORTLAND, OREGON
OFFICE OF THE CITY ATTORNEY

Tracy Reeve, City Attorney
1221 S.W. 4th Avenue, Suite 430
Portland, Oregon 97204
Telephone: (503) 823-4047
Fax: (503) 823-3089

April 11, 2017

VIA EMAIL AND MAIL

Mr. Thomas Perrelli
Jenner & Block, LLP
1099 New York Ave., NW, Suite 900
Washington, D.C. 20001-4412

Re: Uber Investigation – Portland, Oregon

Dear Mr. Perrelli:

We received your letter of April 7, 2017 which constitutes Uber/Rasier LLC's ("Uber") initial response to information our requests and inquiries of March 15, 2017 regarding Uber's use of "Greyball" technology in Portland. As a practical matter, we agreed that Uber's responses could be bifurcated by two separate time periods. First, Uber would respond to our requests and inquiries as to the period of time from April 24, 2015 to present. That represents the time period for which Uber is permitted as a Transportation Network Company in the City of Portland. Subsequently, Uber would respond to the requests and inquiries as to any period of time up to April 24, 2015. As Mayor Wheeler and Commissioner Saltzman said in the March 15th letter, we are particularly interested in understanding what happened in the December 2014 time period as reported by the New York Times.

The response that was provided on April 7th was incomplete. With respect to the questions Uber did not provide written responses. Second, to the extent there are documents or data related to those responses, other than demographic information pertaining to its drivers, Uber provided nothing but a blanket statement that Uber had reviewed relevant documents and data. The City of Portland, under its authority provided in Portland City Code 16.40.240 J, requests that data and information so that we may independently verify your assertion that you "did not use the Greyball technology with respect to regulators in Portland at any time during or since the implementation of Portland's pilot program in April 2015." Further, that information can be used to corroborate or dispute the City's own investigation based on its field audits of Uber drivers.

With regard to this last point I would also note that is an incomplete answer. The question is not whether Greyball was employed against regulators during or since the implementation of the pilot program, but rather whether Greyball has been employed **at all** since that time period. Under Portland City Code, a Transportation Network Company must accept "any request for TNC Service received from any location within the City including requests made by persons with disabilities and requests for wheelchair accessible service." PCC

17-00499-458303



April 11, 2017
Page 2 of 2

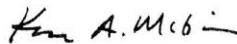
16.40.240 A.2. To state that Greyball has not been employed against regulators necessarily begs the question of when and against whom it has been employed.

Please provide written responses and supporting documentation, if any, to the questions in our March 15th letter by the close of business on Friday, April 14, 2017 for the time period of April 2015 to present. For the time period prior to April 2015, please respond to our inquiries and information requests not later than April 21, 2017. Finally, we reassert our request that Uber commit, in writing, that Uber and its partners will never use Greyball or any similar software tool now or in the future in the City of Portland.

Failure to provide data identified by the Director to verify compliance with requirements in Chapter 16.40 can result in fines of \$1,250 for the 1st offense, \$2,500 for the 2nd offense, and \$5,000 for subsequent offenses. PCC 16.40.930 C. We are prepared to issue fines in accordance with our regulatory function. Additionally, failure to cooperate fully may result in the suspension or revocation of Uber's permit to operate in the City of Portland.

We look forward to your cooperation. If you have any questions, feel free to contact me at (503) 823-4047.

Sincerely,



Kenneth A. McGair
Senior Deputy City Attorney

KAM/vs

Cc: Commissioner Dan Saltzman
Leah Treat, Director Portland Bureau of Transportation

Exhibit H

1099 NEW YORK AVENUE, NW SUITE 900 WASHINGTON, DC 20001-4412

JENNER & BLOCK LLP

April 21, 2017

Kenneth McGair
Office of the City Attorney
1221 SW 4th Avenue Room 430
Portland, OR 97204

Thomas J. Perrelli
Tel +1 202 639 6004
TPerrelli@jenner.com

Dear Mr. McGair:

This letter is in response to your letter of April 11, 2017, seeking additional information regarding Uber's use of Greyball technology in Portland, as well as the questions propounded by the City in the March 15, 2017 letter to Uber. Pursuant to our discussions since those letters, this letter provides information concerning both the period before April 2015, during which Portland had no Transportation Network Company ("TNC") regulations in place, and the period after April 2015, when Portland implemented its pilot project and its TNC regulations. Pursuant to our separate agreement, the information in this letter and the documents provided herewith will be treated as confidential.

As we noted in our letter of April 7, 2017, our review to date indicates that Uber did not use the Greyball technology with respect to regulators in Portland at any time during or since the implementation of Portland's TNC regulations and pilot program in April 2015. Our review has continued since that letter, and our conclusion remains unchanged. We are continuing our review and will inform the City if that conclusion changes.

Additional Background on the Greyball Technology

At the outset, to avoid any confusion, we believe it would be beneficial to provide additional information regarding the manner in which the Greyball technology operates on the Uber app. Although the term gained prominence with reference to its possible use with respect to regulatory authorities in the referenced *New York Times* article, the term and the technology are used in a host of ways that we do not believe trigger the concerns raised by the City.

Within a particular market in which Uber operates, Uber typically employs what is, in essence, a "standard" view that is shown to users or groups of users, such as a standard view for UberX in Portland. However, for a variety of routine and proper business reasons, including marketing, functionality, the safety of Uber's driver-partners, and similar reasons, at times Uber desires to display a different view to a user. For example:

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April 21, 2017

Page 2

- When a local sports team is successful, Uber may desire to hide the standard view in that team's market, and replace it with a view that shows cars that bear the logo of the successful team.
- To test a new functionality, initially on the accounts of Uber employees, Uber may desire to hide the standard view for the employees in the testing group, and replace that view with one that displays the new functionality.
- In some markets in which Uber operates, where driver-partners may be subject to threats of physical violence, Uber may choose to hide the standard view from individuals determined to pose a threat to Uber's driver-partners, and replace that view with one that decreases those individuals' ability to cause harm.

In these and similar situations, in order to "hide" a standard view, Uber may apply a "Greyball tag" to the account for which the view is to be hidden. A "Greyball tag," in Uber's technology, is the technological instruction that causes the standard view to be hidden – and then allows the system to display a different view, often referred to as a "vehicle view," such as a view that contains a sports team logo or a new feature being tested or, in the case of a user who violates Uber's terms of service (as in the case of physical threats), limiting or otherwise altering the display of vehicles.

While the use of Greyball technology varies from market to market, as some markets use other technological approaches in their marketing and promotional efforts, "greyballing" refers to a technological instruction that can be used for a variety of purposes.

Our investigation to date indicates that Uber used the Greyball tag exceedingly sparingly in the City of Portland – and removed all tags in April 2015 and has not used them since. Details of that usage are set forth below and in the documents provided with this letter.

Additional Information in Response to the City's Inquiry

We understand the City's focus in this inquiry to be, first, on the application of Greyball tags to government employees engaging in official enforcement or oversight duties because of their official duties. Second, based on your April 11 letter, we understand the City to be interested in whether Greyball tags were ever applied in order to interfere with the rights of consumers with disabilities or consumers who desire wheelchair accessible service.

Responses to the questions propounded on March 15 are contained in the attachment to this letter. With respect to the additional issues raised in the City's April 11 letter, Uber would like to provide a number of confirmations:

April 21, 2017

Page 3

- First, Uber did not use the Greyball technology with respect to any regulators in Portland after Uber returned to Portland in April of 2015. As noted in our prior response, we have reached this conclusion regarding the use of Greyball technology based on our review of documents and interviews to date. Although it is difficult to prove a negative, we are providing with this letter documentation that we believe will provide assurances to the City.
- Second, Uber is not currently and will not in the future use the Greyball technology to interfere with regulators' efforts in Portland. This is consistent with the commitment that Uber made on March 8, 2017.¹ With respect to Portland, Uber believes that the prohibition against this use of the Greyball technology has been fully implemented.
- Third, the City has indicated concerns about the use of Greyball tags with respect to "anyone," with a particular focus on discrimination on the basis of disability or geographic location. As noted above, the Greyball technology has been used in other markets for a host of purposes that Uber believes would be fully consistent with Uber's agreements with the City and the City's goals. But in Portland, Uber's use of Greyball technology was more limited and, as shown in the documentation provided, affected a small number of accounts for only a brief period in December of 2014. The Greyball technology was not intended to and has not been implemented in Portland to deny rides to individuals with disabilities or on the basis of their geographic location. Such use would be inconsistent with Uber's goal of ensuring that safe, reliable, and high-quality transportation options are available to everyone – and we understand and fully support the City's desire to ensure that such denials do not occur. If our ongoing review reveals any different conclusions about Uber's use of the Greyball technology in Portland, we will promptly inform you, and the company will take swift action to address it.

As mentioned above, in conjunction with this letter we are providing responses to the questions raised in the March 15, 2017 letter and associated information that we understand will be treated as confidential pursuant to our separate agreement.

Please do not hesitate to call me if you would like to discuss these issues.

Sincerely,



Thomas J. Perrelli

¹ See Uber.com Newsroom, "An Update on 'Greyballing'" (Mar. 8, 2017), *available at* <https://newsroom.uber.com/an-update-on-greyballing/>.

Attachment to April 21, 2017
Letter to Mr. McNair

ATTACHMENT
Responses to Questions Raised in March 15, 2017 Letter

- 1. At any time to present, did you use or cause to be used any software or software application known as Greyball or Violations of Terms of Service (“VTOS”) or by any other name or acronym designed to detect government officials and/or government regulators and/or competitors and/or those deemed safety risks and/or any other person seeking to use the Uber application whom Uber wanted to screen out or detect or otherwise prevent from accessing transportation by an Uber driver?**

Background Information Regarding Greyball Technology

At the outset, to avoid any confusion, we believe it would be beneficial to provide additional information regarding the manner in which the Greyball technology operates on the Uber app. Although the term gained prominence with reference to its possible use with respect to regulatory authorities in the referenced *New York Times* article, the term and the technology are used in a host of ways that we do not believe trigger the concerns raised by the City.

Within a particular market in which Uber operates, Uber typically employs what is, in essence, a “standard” view that is shown to users or groups of users, such as a standard view for UberX in Portland. However, for a variety of routine and proper business reasons, including marketing, functionality, the safety of driver-partners, and similar reasons, at times Uber desires to display a different view to a user. For example:

- When a local sports team is successful, Uber may desire to hide the standard view in that team’s market, and replace it with a view that shows cars that bear the logo of the successful team.
- To test a new functionality, initially on the accounts of Uber employees, Uber may desire to hide the standard view for the employees in the testing group, and replace that view with one that displays the new functionality.
- In some markets in which Uber operates, where driver-partners may be subject to threats of physical violence, Uber may choose to hide the standard view from individuals determined to pose a threat to driver-partners, and replace that view with one that decreases those individuals’ ability to cause harm.

In these and similar situations, in order to “hide” a standard view, Uber may apply a “Greyball tag” to the account for which the view is to be hidden. A “Greyball tag,” in Uber’s technology, is the technological instruction that causes the standard view to be hidden – and then allows the system to display a different view, often referred to as a “vehicle view,” such as a view that contains a sports team logo or a new feature being tested or, in the case of a user who violates Uber’s terms of service (as in the case of physical violence), limiting or otherwise altering the display of vehicles.

Attachment to April 21, 2017
Letter to Mr. McNair

While the use of Greyball technology varies from market to market, as some markets use other technological approaches in their marketing and promotional efforts, “greyballing” refers to a technological instruction that can be used for a variety of purposes.

The Use of Greyball Technology in Portland

While our investigation is ongoing and we will inform the City if this conclusion changes, our review indicates that Uber has not used the Greyball technology with respect to regulators in Portland at any time during or since the implementation of Portland’s TNC regulations and pilot program in April 2015. In fact, our review indicates that Uber has not used the technology in Portland since April 2015 for any reason, including to screen out or detect or otherwise prevent anyone from accessing transportation by an Uber vehicle.² The use of Greyball technology in Portland was limited to 17 individual Uber rider accounts added during a two-week period in December 2014. Those tags ceased to have an effect when Uber ceased its UberX operations in the City that month, and all of the Greyball tags were removed in connection with Uber’s re-launch in Portland no later than April 24, 2015.³ Further details are provided in Response No. 2, *infra*.

2. Please describe in detail all uses of any such software from at any time to present.

As you know, the two-week period beginning on December 5, 2014, was marked by uncertainty and conflict between Uber and the City of Portland that, thankfully, has not been repeated at all since. Uber sought to address pent-up consumer demand for its services in the City by launching UberX. Uber was also deeply concerned that its driver-partners would be penalized financially and otherwise for agreeing to join the fledgling service and, more fundamentally, for the Company’s decision to enter the Portland market at that time. After the UberX service was launched, concerned that driver-partners could be subject to individual enforcement actions, the Company used Greyball tags to obscure the standard UberX Portland vehicle view on 17 rider (also referred to as “client”) accounts. This situation lasted for a very short period of time.

By December 21, 2014, following discussions between Uber and the City, there was agreement to a plan by which Uber would leave the Portland market while a regulatory framework was established that would ensure consumer access to UberX and meet the City’s concerns. Uber did not operate UberX in Portland during the ensuing months, and the Greyball tags accordingly had no effect on the Greyballed accounts during that period. As discussed further below, once Uber returned as agreed in April 2015, the Greyball tags at issue were immediately removed from those accounts and such tags have not been used since.

² Uber’s review also determined that due to what appears to have been a human error, a Greyball tag relating to a standard Portland view – specifically, the Portland “WAV” view that is used to show cars that are wheelchair accessible – was erroneously added to the account of a user who lives in another country, has never requested a ride in Portland, and has never requested a wheelchair accessible vehicle. The erroneous tag was added by an Uber employee in Germany and appears never to have affected the user’s ability to request or complete a ride. That account is excluded from this analysis.

³ In addition to the 17 rider accounts, two of the accounts listed as having a Greyball tag were, in fact, a single test account called “PDX Test” that is listed twice in the spreadsheet produced with this attachment. That account is listed twice, with the “toolsclient” identification number of 5d2d1bec-82b7-464c-b55c-dea520a3b5fb.



Attachment to April 21, 2017
Letter to Mr. McNair

In fact, our review indicates that Uber has not used the Greyball technology with respect to regulators in Portland at any time during or since the implementation of Portland's TNC regulations and pilot program in April 2015, and further indicates that Uber has not used the technology in Portland since April 2015 for any reason, including to screen out or detect or otherwise prevent anyone from accessing transportation by an Uber vehicle. The use of Greyball technology in Portland was limited to 17 individual rider accounts added during a two-week period in December 2014. Those tags ceased to have an effect when Uber ceased its UberX operations that month, and all of the Greyball tags were removed in connection with Uber's re-launch in Portland no later than April 24, 2015.

The tags were applied to those 17 rider accounts between December 5, 2014 and December 19, 2014, before Uber ceased its UberX operations after discussions with the City. Account records and contemporaneous correspondence indicate that the Greyball tags were removed from all of these accounts by April 24, 2015. Account activity records further indicate that all of those users who have attempted to request rides using those accounts since then have routinely been successful.

In connection with this review, Uber has attempted to determine the reason or reasons that Greyball tags were placed on the 17 rider accounts during the two-week period in December 2014 during which Uber operated in Portland. The majority of those tags were placed on accounts that bear the names of government employees; we have been unable to determine for certain whether the remaining names are government employees. As noted, all Greyball tags on these rider accounts were removed by April 24, 2015.

During the two-week period in which Uber operated in Portland in December 2014, only three of the 17 rider accounts actually requested rides in Portland while a Greyball tag was applied to their standard view. There were a total of 29 ride requests affected by Greyball tags in Portland – from one account that requested 26 rides, and from two others that requested a combined total of three rides. While some of the other Greyballed accounts requested rides during or after the period in which they were affected by the Greyball tag, none requested rides during the period in which they were affected by the Greyball tag. As noted above, all were fully able to request and complete rides after April 24, 2015, when UberX returned to Portland under the new regulations.

Our review has also found no indication that Uber used Greyball or any other method to interfere with the rights of a person with a disability or a person who desired wheelchair accessible service. None of the Greyball tags applied to user accounts in Portland were applied to hide the "WAV" view that shows wheelchair accessible vehicles, nor had any of the Greyballed accounts requested a UberWAV or UberASSIST ride before the tag was applied. Nor is there evidence that Greyball tags were applied on the basis of geographic location; as noted above, the use of Greyball technology in Portland was limited to 17 rider accounts added during a two-week period in December 2014, with the majority of those tags placed on accounts that we have concluded bear the names of government employees. All Greyball tags were removed by April 24, 2015, in connection with Uber's re-launch, and the technology has not been used in Portland since that time.

Attachment to April 21, 2017
Letter to Mr. McNair

With this attachment, Uber is producing information from its internal database that reflects the 17 rider accounts (and one test account listed twice) to which a Greyball tag was applied in December 2014 and later deleted by April 24, 2015, contemporaneous correspondence regarding the deletion, and rider history data showing the effect of the Greyball tags on those accounts beginning December 1, 2014, encompassing both the period prior to April 2015 and the users' ability to routinely complete rides since that time.

Our investigation on these matters is ongoing and we will inform the City if these conclusions about Uber's use of the Greyball technology in Portland change.

- 3. Please describe in detail all information provided by Uber to its drivers using either the regular Uber software application(s) or any software application(s) described in Paragraph 1 above.**

Neither the Greyball technology, which hides a view from a particular user, nor any related technology that displays new views after a view has been hidden, provides information to Uber's driver-partners. Those technologies affect only the views that are displayed to potential riders.

- 4. Please describe in detail all uses of Uber technology to hide the standard city app view for individual riders, enabling Uber to show that same rider a different version.**

Please see introductory information contained in Response Nos. 1 and 2, *supra*.

Exhibit I

Uber, then operating illegally, used software to evade Portland code enforcers



By **Elliot Njus** | [The Oregonian/OregonLive](#)

[Email the author](#) | [Follow on Twitter](#)

on March 03, 2017 at 12:09 PM, updated March 04, 2017 at 6:31 PM

While operating illegally in Portland in 2014, Uber used software to flag and deny rides to city code enforcers trying to catch it in the act, [The New York Times reported Friday](#).

The ride-hailing company used a tool called Greyball to identify users it believed were using Uber in violation of its terms of service. That, according to a statement from the company, included "opponents who collude with officials on secret 'stings' meant to entrap drivers."

When it identified an official, it blocked that person from hailing a ride, and it displayed a version of the app with fake Ubers, making it more difficult to catch real ones.

The tool is still in use today, according to The Times, but predominantly outside the U.S.

Jon Isaacs, an Uber spokesman, told The Oregonian/OregonLive that Greyball has not been used in Portland since 2015, when the city legalized its business model.

A video from The Oregonian/OregonLive figures prominently in the report. The 2014 video shows a code enforcement officers trying and failing to hail an Uber after the company launched its service in violation of city code. It planned to hit the company and its drivers with four-digit fines for operating unlicensed taxis.

It's not clear how Uber pegged the enforcement officers as such. The Times report suggests it might have been based on repeated hails for rides, their location near a government facility, or the payment information officials used when making the requests.

Uber later halted its service while the Portland City Council organized a pilot program, later made permanent, that would allow it to operate lawfully.

Even today, Portland officials still summon Uber drivers through its app to conduct code enforcement, which includes ensuring the drivers are properly permitted, insured and qualified to drive for hire. The city's transportation bureau employs eight full-time and two part-time employees to enforce its regulations of the ride-for-hire industry.

"We take any effort to undermine our efforts to protect the public very seriously," bureau spokesman Dylan Rivera said. "We will closely examine the evidence presented in this investigation to see if it warrants changes in our approach to consumer protection."

COMMUTING

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He said the bureau inspected 1,400 vehicles working for Uber, Lyft and similar companies in 2016, and expects to grow that number to 2,000 in 2017.

Uber, Lyft run afoul of city rules more often than taxis

Most violations have to do with paperwork, but other issues raise questions about the driver history checks employed by Uber and Lyft to weed out bad drivers.

Uber has in recent months suffered a series of public relations disasters tied to its corporate culture and business practices.

Two weeks ago, a female former software engineer published accusations of sexual harassment and sexism at Uber, **prompting the company to launch an investigation.**

Earlier this week, video emerged of chief executive **Travis Kalanick arguing with an Uber driver** over the company's falling fares. Kalanick later **apologized** and said he needs "leadership help."

And in January, Uber turned off surge pricing as New York City taxi drivers protested President Donald Trump's immigration policies. It was seen as an act of collaboration with the new administration, with which Kalanick had served on an economic advisory council.

He left the position after a #DeleteUber campaign went viral, reportedly **prompting more than 200,000 customers to delete their accounts.**

Uber, meanwhile, is pushing for **a bill** in the Oregon Legislature to **legalize its business model statewide.**

-- Elliot Njus

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Exhibit J

The New York Times | <https://nyti.ms/2lnl5b8>

TECHNOLOGY

How Uber Deceives the Authorities Worldwide

By MIKE ISAAC MARCH 3, 2017

SAN FRANCISCO — Uber has for years engaged in a worldwide program to deceive the authorities in markets where its low-cost ride-hailing service was resisted by law enforcement or, in some instances, had been banned.

The program, involving a tool called Greyball, uses data collected from the Uber app and other techniques to identify and circumvent officials who were trying to clamp down on the ride-hailing service. Uber used these methods to evade the authorities in cities like **Boston**, Paris and Las Vegas, and in countries like Australia, China and South Korea.

Greyball was part of a program called VTOS, short for “violation of terms of service,” which Uber created to root out people it thought were using or targeting its service improperly. The program, including Greyball, began as early as 2014 and remains in use, predominantly outside the United States. Greyball was approved by Uber’s legal team.

Greyball and the VTOS program were described to The New York Times by four current and former Uber employees, who also provided documents. The four spoke on the condition of anonymity because the tools and their use are confidential and because of fear of retaliation by Uber.

Uber's use of Greyball was recorded on video in late 2014, when Erich England, a code enforcement inspector in Portland, Ore., tried to hail an Uber car downtown in a sting operation against the company.

At the time, Uber had just started its ride-hailing service in Portland without seeking permission from the city, which later declared the service **illegal**. To build a case against the company, officers like Mr. England posed as riders, opening the Uber app to hail a car and watching as miniature vehicles on the screen made their way toward the potential fares.

But unknown to Mr. England and other authorities, some of the digital cars they saw in the app did not represent actual vehicles. And the Uber drivers they were able to hail also quickly canceled. That was because Uber had tagged Mr. England and his colleagues — essentially Greyballing them as city officials — based on data collected from the app and in other ways. The company then served up a fake version of the app, populated with ghost cars, to evade capture.

At a time when Uber is already under scrutiny for its **boundary-pushing workplace culture**, its use of the Greyball tool underscores the lengths to which the company will go to dominate its market. Uber has long flouted laws and regulations to gain an edge against entrenched transportation providers, a modus operandi that has helped propel it into more than 70 countries and to a valuation close to \$70 billion.

Yet using its app to identify and sidestep the authorities where regulators said Uber was breaking the law goes further toward skirting ethical lines — and, potentially, legal ones. Some at Uber who knew of the VTOS program and how the Greyball tool was being used were troubled by it.

In a statement, Uber said, “This program denies ride requests to users who are violating our terms of service — whether that’s people aiming to physically harm drivers, competitors looking to disrupt our operations, or opponents who collude with officials on secret ‘stings’ meant to entrap drivers.”

The mayor of Portland, Ted Wheeler, said in a statement, “I am very concerned that Uber may have purposefully worked to thwart the city’s job to protect the

public.”

Uber, which lets people hail rides using a smartphone app, operates multiple types of services, including a luxury Black Car offering in which drivers are commercially licensed. But an Uber service that many regulators have had problems with is the lower-cost version, known in the United States as UberX.

UberX essentially lets people who have passed a background check and vehicle inspection become Uber drivers quickly. In the past, many cities have banned the service and declared it illegal.

That is because the ability to summon a noncommercial driver — which is how UberX drivers using private vehicles are typically categorized — was often unregulated. In barreling into new markets, Uber capitalized on this lack of regulation to quickly enlist UberX drivers and put them to work before local regulators could stop them.

After the authorities caught on to what was happening, Uber and local officials often clashed. Uber has encountered legal problems over UberX in cities including Austin, Tex., Philadelphia and Tampa, Fla., as well as internationally. Eventually, agreements were reached under which regulators developed a legal framework for the low-cost service.

That approach has been costly. Law enforcement officials in some cities have impounded vehicles or issued tickets to UberX drivers, with Uber generally picking up those costs on the drivers’ behalf. The company has estimated thousands of dollars in lost revenue for every vehicle impounded and ticket received.

This is where the VTOS program and the use of the Greyball tool came in. When Uber moved into a new city, it appointed a general manager to lead the charge. This person, using various technologies and techniques, would try to spot enforcement officers.

One technique involved drawing a digital perimeter, or “geofence,” around the government offices on a digital map of a city that Uber was monitoring. The company watched which people were frequently opening and closing the app — a

process known internally as eyeballing — near such locations as evidence that the users might be associated with city agencies.

Other techniques included looking at a user's credit card information and determining whether the card was tied directly to an institution like a police credit union.

Enforcement officials involved in large-scale sting operations meant to catch Uber drivers would sometimes buy dozens of cellphones to create different accounts. To circumvent that tactic, Uber employees would go to local electronics stores to look up device numbers of the cheapest mobile phones for sale, which were often the ones bought by city officials working with budgets that were not large.

In all, there were at least a dozen or so signifiers in the VTOS program that Uber employees could use to assess whether users were regular new riders or probably city officials.

If such clues did not confirm a user's identity, Uber employees would search social media profiles and other information available online. If users were identified as being linked to law enforcement, Uber Greyballed them by tagging them with a small piece of code that read "Greyball" followed by a string of numbers.

When someone tagged this way called a car, Uber could scramble a set of ghost cars in a fake version of the app for that person to see, or show that no cars were available. Occasionally, if a driver accidentally picked up someone tagged as an officer, Uber called the driver with instructions to end the ride.

Uber employees said the practices and tools were born in part out of safety measures meant to protect drivers in some countries. In France, India and Kenya, for instance, taxi companies and workers targeted and attacked new Uber drivers.

"They're beating the cars with metal bats," the singer Courtney Love posted on Twitter from an Uber car in Paris at a time of **clashes between the company and taxi drivers** in 2015. Ms. Love said that protesters had ambushed her Uber ride and had held her driver hostage. "This is France? I'm safer in Baghdad."

Uber has said it was also at risk from tactics used by taxi and limousine companies in some markets. In Tampa, for instance, Uber cited **collusion between the local transportation authority** and taxi companies in fighting ride-hailing services.

In those areas, Greyballing started as a way to scramble the locations of UberX drivers to prevent competitors from finding them. Uber said that was still the tool's primary use.

But as Uber moved into new markets, its engineers saw that the same methods could be used to evade law enforcement. Once the Greyball tool was put in place and tested, Uber engineers created a playbook with a list of tactics and distributed it to general managers in more than a dozen countries on five continents.

At least 50 people inside Uber knew about Greyball, and some had qualms about whether it was ethical or legal. Greyball was approved by Uber's legal team, led by Salle Yoo, the company's general counsel. Ryan Graves, an early hire who became senior vice president of global operations and a board member, was also aware of the program.

Ms. Yoo and Mr. Graves did not respond to requests for comment.

Outside legal specialists said they were uncertain about the legality of the program. Greyball could be considered a violation of the federal Computer Fraud and Abuse Act, or possibly intentional obstruction of justice, depending on local laws and jurisdictions, said Peter Henning, a law professor at Wayne State University who also writes for The New York Times.

"With any type of systematic thwarting of the law, you're flirting with disaster," Professor Henning said. "We all take our foot off the gas when we see the police car at the intersection up ahead, and there's nothing wrong with that. But this goes far beyond avoiding a speed trap."

On Friday, Marietje Schaake, a member of the European Parliament for the Dutch Democratic Party in the Netherlands, wrote that she had written **to the**

European Commission asking, among other things, if it planned to investigate the legality of Greyball.

To date, Greyballing has been effective. In Portland on that day in late 2014, Mr. England, the enforcement officer, **did not catch an Uber**, according to local reports.

And two weeks after Uber began dispatching drivers in Portland, the company reached an agreement with local officials that said that after a three-month suspension, UberX would eventually be legally available in the city.

Follow Mike Isaac on Twitter @MikeIsaac.

A version of this article appears in print on March 4, 2017, on Page A1 of the New York edition with the headline: Uber Uses Tech to Deceive Authorities Worldwide.

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1. *Name of agency?*
2. *How long have TNCs been operating in your city?*
3. *Uber used a software program known as Greyball specifically designed to block regulators, police and others tasked with oversight of the private for-hire industry from using their apps (the TNCs) to order rides and engage in other official functions. Have you suspected that any TNC has “Greyball” or any software program to block, delay or deter regulators from performing official functions?*
4. *Do you have any evidence that any TNC has used a software for this purpose in your jurisdiction? If yes, please briefly describe the evidence in the comment box below.*
5. *Do the TNCs provide you with data on their activities in your jurisdiction? If yes, please check all that apply.*
6. *Do you have a procedure to verify that the data you receive is complete and accurate? If yes, please briefly explain.*
7. *Do you conduct on-street audits or inspections of the TNC’s? If yes, what is the average number per year?*

8. Do you charge the TNCs a permit fee or a per ride surcharge fee or tax? If yes, how much?

9. Contact information

