

Houston Taxi Study

**By
Tennessee Transportation & Logistics Foundation**

TTLF

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January 20, 2014

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PURPOSE AND SCOPE OF ENGAGEMENT

The purpose of this report is to relate the findings and recommendations of a study contracted by the City of Houston for the examination of taxi services within the city of Houston. TTLF's approach included the following project tasks:

Phase I: Determine System Requirements and Current Situation

- Meet with officials and staff to clarify project scope, request further data, determine study requirements, and create lists of people and organizations to interview
- Establish an internal taxicab study advisory group.
- Conduct comprehensive customer/hotel surveys/interviews with all stakeholders as deemed necessary
- Conduct Secret Shopper trials of taxi companies serving Houston, Texas
- Conduct on-line and on-street surveys of residents and visitors regarding Houston's taxi service
- Interview taxi dispatch companies and taxi drivers
- Interview current taxi permit (decal) holders
- Obtain dispatch data, both raw and electronic, from existing taxi operators to perform service level analysis on existing taxi system.

Phase II: System Conceptual Design

- Meet with Houston Taxicab Study Advisory Board reviewing current conditions and comparing Houston with other cities of similar size and situation
- Provide several alternatives for discussion and consensus, building an appropriate "best fit" taxi regulatory model for Houston to use in the future.

Phase III: Implementation Plan and Detailed Design

- Prepare detailed recommendations and implementation plan of the chosen alternative for final approval
- Prepare final report
- Be available for public hearings and presentations as necessary

This report will discuss the rationale and necessity of regulating taxi operations within the City of Houston; the current Houston taxi markets and company structures for the provision of taxi services; the current environment for taxicab service, and finally, recommendations for the future. Included within this report will be an analysis of challenges and opportunities for traditional taxicab operations brought about through the introduction of “transportation network providers”, new entrants using digital dispatch to serve customers. Examples of transportation network providers include Lyft, Uber, and Sidecar.

SUMMARY, OBSERVATIONS, & RECOMMENDATIONS

Analysis from initial data supplied by the taxi companies, frequent user surveys, stakeholder interviews, and secret shopper interviews is detailed herein, and individual survey responses point to several issues. These observations and issues would be:

- There are many positive things to report regarding the Houston taxi system. Most impressive is the response time achieved by the city's largest self-service taxi company. This company achieved a response time of 77% of calls from a taxi being serviced within 15 minutes and 93% being serviced within 30 minutes. This is among the better level of taxi dispatch service for any city in North America, especially for a large metropolitan city.
- Overall, individual Houston Taxi users are very satisfied with their dispatched taxi services.
- While there is a good operational performance of dispatched taxis and good satisfaction with some taxi services, frequent taxicab users such as hotels, restaurants, medical facilities, etc. rated the quality of the vehicle, driver dress, and attitude, quite low when compared to other cities. In addition, secret shoppers found nearly a quarter of Houston taxi drivers to be unfamiliar with Houston streets and constantly talking on their cell phones while driving. These issues need to be addressed.
- There exists substantial frustration among taxi owner/drivers that lease city permits but receive little value in the way of dispatch trips, corporate vouchers, or other demand generation for their lease payments. These owner operators serve primarily the airport(s), downtown taxi stands, hotels, personals, and hails. Should a future administration decide to change the way taxicab services are currently provided at the Houston airports – either by converting current taxi operations into concessions, or staggering staging days, or some other form of change due to the potential for improved vehicles and services, these operators could be forced from the market place. Alternative recommendations to address any future operational changes at the airports

might include the following options;

1. Recalling all taxi permits from current owners that do not drive their own taxi nor provide value in their management of these permits in the form of dispatch or prearranged demand at a prescribed minimum level, and redistributing them to the owner/drivers. This alternative is being requested by Houston's AFL organized owner/driver association. However, their alternative does not address the issue of creating demand for these drivers other than continuation of serving the airport as it currently exists.
 2. A more responsive recommendation is for all taxi permit holders to be able to generate a minimum number of trips per day per vehicle in order to offer their permits at any lease rate greater than 100% of the sum they pay the city to renew their yearly permit. This could be accomplished by requiring that owner/drivers belong to a taxi dispatch company or an airport taxi concession company should the airport(s) someday decide to institute concession agreements. Such a recommendation would force permit holders to either develop a viable dispatch and marketing plan or lease their permits through a current full service taxi company that already has a viable taxi dispatch and marketing system. In this alternative there is no retaking of permits – only new requirements for leasing a permit.
- There is substantial fragmentation in the Houston taxi market and confusion among customers due to the continued proliferation of color schemes of single owner/operator independent contract drivers and long term lease drivers who create the appearance of their own taxi company. A substantial number of Houston's taxi permits are managed by companies and individuals that permit drivers to lease their permit on a long term (one year) basis with the concept that the permit lessor can then own and operate his/her one car taxi company – painting their car a distinctive color scheme unlike other taxi color schemes within the City of Houston.
1. While the concept of supporting the individual as an entrepreneur is laudable in theory, a one, or even several car taxi company for a City the size of Houston is

simply not workable unless these operations work the airport and other areas which need no dispatch system. Self-dispatching of these types of small taxi companies is not feasible since calls can come from anywhere in the 624 square mile area of Houston. These types of operations are car services who will negotiate to provide service depending upon where you are and where you plan to go.

2. All Houston taxi owner/drivers should be dispatched from a taxi dispatch company that generates a minimum amount of demand per day per car and all taxis should be painted in the colors and brand name of that dispatch company.
 3. Greater enforcement of illegal taxi operations is a constant complaint of current taxi permit holders and licensed taxi drivers. Illegal operations or suspected illegal operations often occur because of all the different rainbow colors currently present in the Houston taxi market. As shown by frequent user surveys, users are also confused by all these taxi color schemes. While the above recommendation to have all taxis be part of a brand name dispatching system will go a long way toward improving the ability of taxi inspectors to manage only a few registered colors, there would still be confusion regarding legal sedan and limousine services. Therefore, a form of distance based bar coding or electronic monitoring is recommended for use on all regulated vehicles so inspectors will instantly know when a vehicle and driver are legal.
- In order to better manage the large number of regulated vehicles on Houston's streets, better technology is needed to quickly identify and verify the operating permit and driver of these vehicles. The technology recommended for Houston would be a hand held reader that reads a bar code tag indicating to whom the vehicle belongs and who is legitimately permitted to drive this vehicle. The information would be tied to a database of vehicles and drivers and would either find a match or indicate that it was an illegal (unregulated) vehicle and/or non-licensed driver. This system would also include a picture of the driver and the ability to generate violation notices automatically if a violation is found. Contained in Appendix E is a quote for such a system developed

by GateKeeper Systems that meets and exceeds these operating parameters.

- Requirements for improved driver screening, training, and service conformance must be implemented. Frequent user surveys, secret shopper reports, and stakeholder interviews indicate a general lack of customer service by a small but significant percentage of current Houston taxi drivers. Smoking in their vehicles with passenger present; refusal of credit cards, refusal to provide proper receipt; being rude to customers, fighting with hotel doormen; etc. This is creating considerable ill will and poor images of the entire Houston taxi industry – negatively impacting the many fine and helpful Houston cab drivers through loss of general business activity and opportunities due to this behavior. Recommendations to improve this situations would include, but not be limited to the following;
 1. Increasing standards for obtaining a Houston taxi driver’s chauffeur license.
 2. A formal training program paid for by drivers
 3. Requiring that all taxi mobile dispatch applications contain a customer complaint section that is transmitted electronically to the City of Houston for assembly of a database on driver behaviors. Drivers receiving significant complaints would have their driving license suspended and/or not renewed.
- Taxicab driver safety is an issue that needs to be addressed in Houston. Currently the industry solution to deterring crime is to offer shields for the drivers but often this defeats the quality and level of service of the taxi in favor of car services and other alternatives. Recommended is a comprehensive program of taxicab cameras and rigorous enforcement of violators to reinforce the concept that robbing or harming a taxi driver is a quick way to acquire time in jail or juvenile detention.
- The number of taxi permits appropriate for the City of Houston is a constant issue that needs to have some quantifiable base to it in addition to comparing populations or simple growth in population as the basis for the number of taxi permits to authorize. It would appear that the call or reservation market is being well served for those who run a full service taxi dispatching company but the hotel and airport service is seriously lacking in terms of driver behavior but not availability of taxis. The addition

of taxi permits to serve either market would have the short run effect of diluting the market and decreasing the earning potential of current drivers. However, if the number of taxi trips per vehicle is increasing and service delivery time begins to diminish, then additional permits will be needed.

In order to maintain a balance between existing service levels and ability of the taxi industry to service increased demand, a formula based on demonstrated need through additional trips per vehicle is recommended as the additional methodology to add additional permits. In this way, additional permits will only be issued when there is demonstrated evidence of increased demand in addition to the traditional measures of deplanements and population. This formula would be a ratio of increased demand in the form of additional taxi trips divided by the current number of taxi trips from dispatched companies, or:

$$\frac{\% > \text{Taxi Trips}}{\text{Existing \# of Taxi Trips}}$$

Such a formula can suffice for current operators but would appear to limit the opportunity for new entries into the Houston taxicab market. Of course, anyone can purchase an existing taxi dispatch company and enter the market but in order to overcome the issue of keeping new firms out, it is suggested that when the number of increased trips per vehicle indicate a need for 300 new taxis or 12.1% of the market supply, 150 permits be set aside for another taxi dispatch company to be awarded by competitive proposals to the city.

Ultimately, where the City's problems appear to derive from individual cab drivers that may not be dispatched but rather depend upon street hails and stands to generate their business. Houston's non-dispatch taxi operations, as shown by responses to several surveys and personal interviews, require immediate attention. **Therefore, the primary long-run strategy recommended for the City of Houston from this study is to concentrate its efforts on ensuring that 100% of its taxi permits are value added permits, either through dispatch or pre-arranged business, thereby providing a driver with an income opportunity which is greater than their daily or weekly lease rate for the permit itself.**

THEORETICAL BACKGROUND

Why Regulate Taxis?

The necessity to regulate taxi services within the State of Texas and City of Houston arises from a mandate in Texas law, specifically Section 215.004 of the State of Texas Local Government Code, which provides that cities in Texas “*shall license, control and otherwise regulate each private passenger vehicle...that provides passenger taxicab transportation services...*” There is no similar requirement for regulation of any other category of passenger transportation at the municipal level. However, by statute, cities may license and economically regulate the provision of transportation systems if city officials are so inclined and deem these regulations to be in the public’s interest.

Taxi Deregulation Results in Other Cities

The failure of the U.S. taxicab industry open entries deregulation is well documented. Dr. Sandra Rosenbloom of The University of Texas, and Dr. Roger Teal of The California State University have separately concluded that taxi deregulation has failed to demonstrate any substantial benefits to drivers, taxi firms, or users.¹² Dr. Paul Dempsey, in summarizing the empirical data from these researchers' studies and other commissioned studies³, listed the results of taxi deregulation in 21 major U.S. cities prior to 1983. These were:

1. A significant increase in new entry;
2. A decline in operational efficiency and productivity;
3. An increase in highway congestion, energy consumption and environmental pollution;
4. An increase in rates;
5. A decline in driver income;
6. A deterioration in service; and

¹ Rosenbloom, Sandra *The Taxi in the Urban Transport Systems, The Private Challenge To Public Transportation* (Charles Lane, ed., 1984)

² Teal, Roger & Berglund, Mary, *The Impacts of Taxicab Deregulations in the U.S.A.*, *Journal of Transportation Economics of policy*, Volume #37, (Jan. 1987)

³ Dempsey, Paul Stephen, "Taxi Industry Regulation, Deregulation & Regulation: The Paradox of Market Failure" *Transportation Law Journal*, University of Denver, College of Law, Denver, Colorado, Volume 24, #1, Summer 1996, p.102

7. Little or on improvement in administrative costs.⁴

Other notable authors having once advocated taxi deregulation by removing the maximum number of cabs authorized to provide service and recognizing a single owner/drivers as a cab company have since changed their minds based on the empirical evidence and the failure of their own recommendations.

"The taxicab industry has undergone significant changes in the last decade or so. It passed from a regulated industry to a deregulated one in many cities and municipalities and back again to the regulated environment. A lot of economists who were arguing that regulation causes perverse effects on taxicab industry performance have changed their minds after having observed this industry operating without entry and fare regulations and have invoked back the regime of regulation."⁵

An entry proponent of taxicab deregulation, Professor Teal writes:

"By the late 1980's, the returns were in on the taxi deregulation experiences. These took two forms. The first was actual data on the post-deregulation experiences, obtained in part through studies sponsored by the U.S. Department of Transportation (Gelb, 1982; Gelb, 1983a; Gelb, 1983b; Teal et al., 1984). The second involved the responses of the local governments which had initiated the regulatory changes, namely continuation, modification, or abandonment of these policies.

"Both analytically and politically, economic deregulation fared relatively poorly, particularly compared to the expectations of its proponents. The local governments which had adopted the most far-reaching forms of deregulation eventually either completely abandoned this policy or sharply scaled back the most significant features of deregulation. In addition, the only comprehensive empirical study of the deregulation experiences came to the conclusion that the benefits of deregulation were "insubstantial" in most locales (Teal and Berglund, 1987). While some economists continue to argue on theoretical grounds for deregulation, apparently not willing to concede to the empirical evidence (Frankena and Pautler, 1984 is an early example; Travers Morgan, 1988 a more recent example), the political debate appears to be largely over. **No large American city has deregulated its taxi industry during the past several years, and the issue has essentially disappeared from the active urban transportation policy agenda.**"⁶ (Original citing from 1992, but is still viable today.)

The deregulation and then re-regulation of taxicabs in the city of Seattle is indicative of the taxicab deregulation experienced by many major U.S. cities. James J. Buck, Manager of

⁴ Dempsey, Op. Lite, p. 102

⁵ Gentzoglans, Anastassios, "The Taxicab Industry: Theoretical and Empirical Evidence from (De) Regulation," Proceedings; International Conference on Taxi Regulation, Montreal, United States, 1992, p.57

⁶ Teal, Roger F., "An Overview of the American Experience with Taxi Deregulation" Proceeding IATR, Montreal, United States, 1992, p. 123

Seattle's King County Division of General Services, writes:

"In 1979, the Seattle City Council adopted legislation which eliminated the population ratio as an entry limitation for taxicab licenses. You could license as many cabs as met the licensing requirements, i.e., application fee, insurance, inspected and approved vehicle and taximeter, approved name and color scheme, and approved ownership. At the same time, rates were whatever the licensee filed with the City, as long as the rate followed the prescribed form and was reflected on the taximeter.

"Did the market regulate entry and rates? NO. Were there problems? YES. Rate gouging. Short haul refusals. Surly and discourteous treatment of passengers. Fights at cab stands at the Airport. Experiential data concerning accidents and safety became very damaging, impacting insurance rates and coverage. Government regulators were constantly barraged by industry complaints that "deregulation" wasn't working, they couldn't make any money, unsafe vehicles on the street, tension and animosity among drivers with the potential for violence, etc. Pleas for reviews were frequent.⁷

By 1984, taxicab deregulation in King County was dead -- completely reversed with fixed limit on taxicab licenses.

By far the most comprehensive analysis of taxicab deregulation and re-regulation was prepared by Price Waterhouse's Office of Government Services.⁸ Six U.S. cities which had deregulated their taxicab previously through open entry were examined in depth.

The executive summary of this Price Waterhouse report concludes:

"Deregulation introduced several immediate changes in taxi supply, price, and service quality in the six cities for which detailed case study information is available (Berkeley, Oakland, Phoenix, Portland, San Diego, and Seattle.) The experience of these cities generally indicates that the benefits of deregulation were devalued by unanticipated and unattractive side effects:

"Although the supply of taxi services expanded dramatically, only marginal service improvement were experienced by consumers. Within a year of deregulation, the supply of taxi services increased an average of 23%. Because most new entrants were independent operators and small fleet owners with limited capability to serve the telephone-based market, most new service was concentrated at already well-served locations -- such as airports and major cabstands. Customer wait times at these locations, already short, were reduced further. Response times in the telephone market were similar to pre-deregulation performance. **Trip refusals and no-shows, however, increased significantly.**

"Prices rose in every instance. Paradoxically, the influx of new entrants did not

⁷ Buck, James J., "The Seattle U-Turn" Proceedings, International Conference on Taxicab Regulation, Montreal, United States, 1992, p.141-142

⁸ Analysis of Taxicab Deregulation and Re-regulation, Price Waterhouse, Office of Government Services, Washington, D.C., 1993

invoke the price competition typically experienced in other newly-deregulated industries. **Prices rose an average of 29% in the year following deregulation.** There appear to be two sources of this unexpected event. First, fare increases prior to deregulation had consistently lagged cost increases. Veteran operators thus corrected prices at the first opportunity. Second, new entrants generally charged higher fares than the veteran operators. The cabstand markets on which these operators focused their services are generally price insensitive and, because of the first-in first-out nature of taxi queues, comparison shopping is discouraged. For these reason, the new entrants had no incentive to introduce price competition.

"Service quality declined. Trips refusals, a decline in vehicles age and condition, and aggressive passenger solicitation associated with an over-supply of taxis are characteristic of a worsening in service quality following deregulation.

"The negative aspects of deregulation were especially evident at airports and major tourist attractions. As a result, deregulation often acquired the enmity of the business

community and **adverse media coverage.** These effects were most closely associated with cities that implemented an "open entry" policy that enabled influx of independent owner-operators that were unaffiliated with companies or taxi cooperatives.

The airport taxicab system might have an impact on low-income and residential users - the primary market for non-airport taxicabs. Professor Gorman Gilbert, one of the country's foremost writers on taxicabs and former Commissioner of the New York City Limousine and Taxi Authority writes the following:

"The increase in taxicab fares in residential areas produces a particularly bitter impact on low-income persons. A major and increasing proportion of residential taxicab business originates in low-income or minority neighborhood...this is not surprising since residents in these areas are often dependent on taxicab service for mobility. These trips are for essential purposes, such as trips to grocery stores and medical factories. In contrast, the trips from airports and downtown hotel stands are made by persons who are clearly more affluent businesspersons, vacationers, and conventioners.

"Increasing fares to residential areas means that the impact of more taxicab is borne disproportionately by low-income persons. In other words, *those who can least afford to pay would be charged the most...* Those who follow the academic argument of 'letting the market decide' taxicab fares are really 'letting the poor pay more.'"⁹

⁹ Gilbert, Gorman, Effect of Open Entry and Variable Fares on the Cost of Taxicab Service to Residential areas,1984

This is not to suggest that Houston and other communities should forego the new technologies that are being advocated by digital dispatch companies. Indeed, the use of mobile apps which bring about ease of payment, the security of a digital trail of company, driver, and transaction; plus a record of transportation expenses, should be encouraged by taxi regulatory bodies. Current companies which offer these newer technologies should be encouraged to enter the market. Current operators of taxi companies should be encouraged to utilize these new technologies as ways to improve their services to the public.

Houston is fortunate to have two major taxi companies that have implemented their own mobile apps that provide similar features to those who want to enter the market. One taxicab operators has developed its own digital dispatch application, while the other uses a third party application that directs customers to the company's computerized dispatch service.

Framework for Analysis

The emergence of new digital dispatch technologies is leading regulators to carefully consider what defines a taxicab company. Taxi companies today can be, and often are, very different – even within the same community. Houston is fortunate that it has two taxi dispatch companies that are used by over 90% of its residents. These large dispatch companies appear to be full-service taxi companies with a long-run view of providing good customer service. However, Houston has over 141 taxi companies that, arguably, do not add value to their permits by having significant dispatch operations. Each company has its own color scheme. There are 122 taxi companies with yellow page advertisements for their phone number, and will accept customers on the condition it is a “good” trip, i.e. a longer trip which is more lucrative. Drivers in these operations are more akin to that of private car services with a meter; their primary markets are the airports, taxi stands, and personals.

A thorough knowledge of the Houston taxi market first requires some detailed explanation of the traditional types of taxicab firms found in North American communities in general. The North American taxi industry can be perceived as a continuum ranging from a comprehensive taxi firm to single independent taxi driver(s) acting as a taxi firm. At one end of this continuum, there is a long run orientation toward the taxi company as the provider of service and at the other end is the reliance on the independent owner-operator taxi driver as the provider of service. (Figure 1 below) A detailed explanation of these taxi company categories can be found in Appendix A.

Continuum of City Taxicab Firms

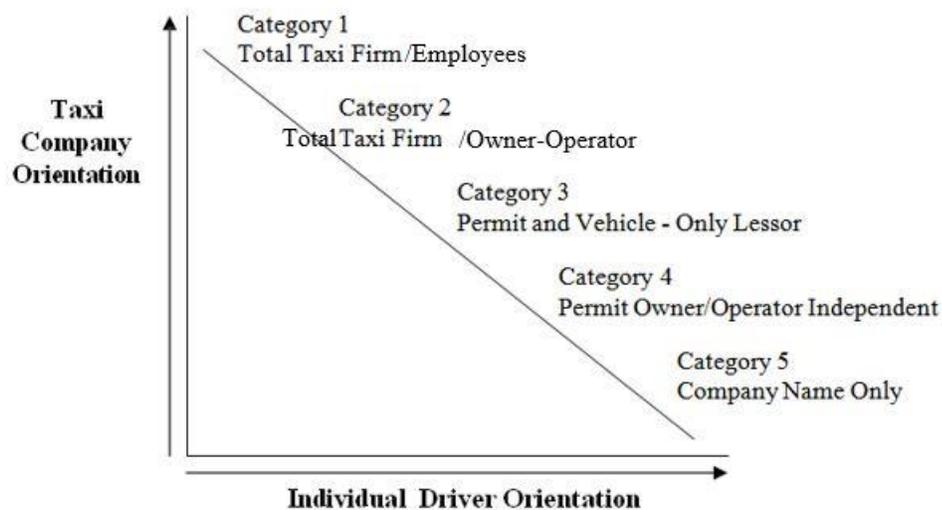


Figure 1

As shown, this continuum of taxicab firms ranges from the total taxi firm which adds significant economic value to the city's taxicab permit, down to a simple decal holder who drives their own taxi or leases their decal to the highest bidder who may provide a vehicle that they or others drive. At the upper end of this continuum, the total taxi firm, stages one and two, are adding significant value to the community permit using their own employees or owner-operator drivers. Similar to most U.S. cities, except Las Vegas and Reno, Nevada, there are no stage one taxi firms Houston. These firms typically take a **long term** view of their marketplace – using resources to develop additional markets so more taxis can be added. They attempt to serve their entire geographic market through modern dispatching technologies such as GPS tracking and computerized dispatching the closest cab, and now have developed their own mobile apps or are working through a third party operator that provides them that

capability.

As we move toward the concept of the independent driver who owns his/her own vehicle and/or license (permit) or drives for one who leases him/her their permit, just the opposite view may be taken. The orientation is typically short run – that day to make the lease cost of the vehicle first and then to contribute to their income. Drivers work public stands and the airport, if it is open, foregoing the cost of belonging to a dispatch system or feeling the cost of dispatch outweighs the value of the calls they receive. If they do belong to a dispatch system, they will often make the economic decision not to service the short trip which requires them to dead head away from the stand they are on or they know the address is one who typically makes a short trip such as a grocery trip. When this occurs, such as in an open entry or deregulated taxi system, there is no taxi company to manage taxi service levels and the community inherits a much greater role in the management of these taxi drivers on a day-to-day basis.

Unfortunately, most city taxi licensing or regulatory systems are set up as if we still had either Category 1 or Category 2 full service taxi firms. As such, traditionally, cities assume very little management role of the taxi drivers. Some taxi companies have changed a part of their methods of operation; first, by changing the employee-employer driver relationship to that of an independent contractor driver – thereby eliminating many government mandated employee costs. This, in and of itself, does not necessarily change the long run service view of the full service taxi company.

Furthermore, it should be noted that the shift from employee drivers to independent contract drivers has been the prevailing trend within the taxi industry for the past several decades. Today, there are only a few major cities, such as Las Vegas, Nevada where taxi drivers are employees rather than independent contractors. It is also noteworthy to point out that this move to independent contractors, in and of itself, does not have to lessen the amount of management oversight of the drivers. While a taxi company management firm cannot exercise traditional employee control over a driver's activity, such as having a disciplinary procedure, or otherwise doing things which various branches of both Federal and State governments determine to be elements of driver control, they can manage the city requirements for driver behavior, dress, and requests for service duties if these are part of the city code or ordinance. Unfortunately, many local regulatory authorities have been slow to modernize their taxi codes to reflect the changes from employee to independent contractor

...

driver. An important result of this shift is that the management of day to day operations policy formulation and compliance has effectively shifted from the taxi companies themselves to the regulatory bodies. Consequently, the regulatory bodies and the elected officials to which they report are responsible for using their ordinances and regulations as company operating documents, and attempting to make appropriate updates to such documents as either business practices change or public safety dictates. Regulatory modifications are, by design, less responsive than modifications that could otherwise be made by the private sector operators themselves.

Full service taxi firms may also find it less costly to not own and maintain all their own vehicles; preferring to let others, including drivers assume the responsibility for their vehicles. However, the clear difference between a full-service taxi company with a long-run view and the taxi companies of a driver association is when these entities all but abandon their marketing and dispatch functions. Thus, over time, cities and airports, through their responsibility for issuance of driver's permits, vehicle inspections, daily citations for violations of city/airport taxi ordinances, etc., have become the day-to-day management for the non-dispatched taxi operations within their city. This framework is an appropriate template upon which Houston's taxi firms can be placed.

Extension of the Framework to Houston

Fortunately, two of the 143 taxi companies permitted by the City of Houston would fall into Categories 2, and 3, being full service taxi companies, Greater Houston Transportation Company and Houston Transportation Services, respectively. These companies have separate business facilities, provide computerized dispatch services, and attempt to assist most of their drivers in the marketing of their service through service contracts, school and corporate vouchers. A complete roster of the current taxi companies operating in Houston in the time of this writing is provided below. However, one of these two taxi companies, Houston Transportation Services, has chosen to allow up to 100 of their permits to be leased long-term in which the lessor can and does form their own taxi "company" with a single or few vehicles. This taxi company is then registered with the city and is required to be painted a different color from all other taxi companies. Over time, identifying a taxi company by it

color has become exceeding difficult.

Unfortunately many of these long term permit lessees do not also sign up for dispatch services, thereby making them a category 4 provider – operating someone else’s permit without dispatch or marketing. Even if this operator does purchase dispatch services it is confusing to the Houston taxi user when he or she calls a taxi company and another company’s vehicle shows up to pick them up.

There are over 50 additional Houston taxi companies which have multiple taxi permits, 2 to 116 vehicles respectively but offer no dispatch and little or no marketing of their taxi brand or services. These would also be considered category 4 taxi companies. Finally there are large numbers of individual permit owners that drive their own vehicle or lease it out – each identifying themselves as a distinctly different taxi company. Depending upon who owns the vehicle, these would be category 4 or 5 taxi firms with a daily individual orientation.

With so many single permit taxi companies, one concludes that the City of Houston already has a traditional taxi medallion system for non-dispatched taxis. As depicted, the City of Houston, due to the presence of one large, well-managed full service taxi company occupying slightly over 58.3% of the licensed taxicabs in the city, has not experienced the problems associated with such widespread devolution of the taxi industry where cities and airports are required to assume an extensive managerial role over taxi drivers. However, service levels exhibited by the non-dispatched market sector providers, indicate there is a community desire for something to be done to improve driver attitudes, vehicles, and services to their establishments.

Typical taxi regulatory agencies are left to screen the driver applicants, issue driver permits, fine violators for not following the operating rules of trip refusals, operating hours of service, etc., set the meter rates, vehicle ages and condition, inspect the vehicles, and ultimately determine the economic conditions within which the taxi drivers operate. Houston taxi regulators have done a better job of managing local taxi dispatch services than most other large cities, through their emphasis on full service taxi companies. However, Houston’s non-dispatch taxi operations, as shown by responses to several surveys and personal interviews, require immediate attention.

This segment of Houston’s taxi industry could become even less responsive to institutional users unless appropriate measures are taken to remove customer confusion;

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improve regulation of service levels through greater training; and provision of regulatory language which forces taxi permit holders to provide enforcement of ordinances addressing driver behavior and duties. Through greater utilization of new technologies which measure the quality of taxi operations and drivers, much improvement of Houston's non-dispatch taxi services can be achieved.

Another, even more serious driver morale problem arises when drivers realize they are receiving no real benefits from the lease fees they are paying taxi firms for permits to operate a taxicab. Lower insurance costs may be deemed as the only value of associating with a cab company if an owner-driver works primarily the airport and public cab stands.

Forms of Taxicab Regulation in the U.S.

U.S. cities have developed several different approaches to regulating their local taxi services. The most common forms of taxi regulations are (1) medallion systems; (2) managed competition; and (3) franchised concessions. Each of these will be discussed below.

Medallion Systems

A few cities, like New York City and Boston, have preferred to regulate their taxi services through individual taxi medallions and a system of taxi garages which provide a variety of services including but not limited to insurance, a vehicle, and, in some cases, a taxi medallion for the individual independent contract driver to utilize. All these services are included in a daily lease for the vehicle and associated services. While taxi garages provide some 25% of the vehicles, the remaining three fourths are groups or individual medallion owners who lease their permits to individual drivers either themselves or through intermediaries. Some of these individual medallion owners drive their car with permit or lease permit to a second shift and/or as a weekend driver. This system of regulation is known as a "medallion city" where the management of the driver falls primarily on the City of New York and NYC Taxi & Limousine Commission. Thus, a large number of taxi inspectors are constantly on the streets of New York to enforce the city's taxi operating rules and regulations.

For a large city like New York, this may be an appropriate regulatory form since the vast majority of their traditional taxi trips are flag (street hail) trips which require no dispatch. In

fact, New York Yellow Cabs have no radios for dispatch in their vehicles. These taxis can make over 66 pickups per day, dropping off one customer as another gets into the car.

Outside of a few major cities in the Northeast with similar taxi trips however, the medallion type form of regulation is not the predominant form of taxi regulations. As taxis serve more of the call and dispatch market of most U.S. cities, greater attention is paid to the service levels for these customer trips that are not street hails. More commonly these cities utilize the economic concept of managed competition. This strategy of taxi regulations centers on the economic theory that competition is good and the competing companies, all charging the same metered rate, will compete through service to bring about improved customer services – that like restaurants, the good will drive out the bad. Thus, many city officials will argue whether two, three, or more taxi companies provide the best level of service to the community.

Still others feel that the number of taxi companies should be unlimited within the total number of permits available so that a large number of taxi companies can be found in many cities, such as 39 taxi companies in Miami-Dade County or 122 cab companies listed in the Houston Yellow Pages – some consisting of only one or a few vehicles. The primary thrust is that the strategy is to set standards for all cab companies whether they be a single car company or a company with several hundred vehicles and to use city personnel (taxi inspectors) to determine if these companies are meeting these standards.

Franchised Systems

Several U.S. cities have adopted a franchise approach to their regulation of taxicabs. Cities like Los Angeles, Palm Springs, and Anaheim California, Austin, Texas and more recently Salt Lake City, Utah, have adopted this approach. In this approach, the city decides how many total taxicabs they need to serve their community and the number of competing companies. Depending upon the size of the city, this can be as few as two or three operating taxi companies or, in the case of Los Angeles, nine separate franchise agreements – each assigned to a primary geographic area.

The major aspect of the franchise approach is that it allows the city to review the concession at set intervals, usually 5 year intervals, to determine if it wants to rebid those concessions or extend existing agreements. It also removes the city from established regulatory

laws and precedents and moves their taxi legal issues to that of contract law, thereby, some feel, strengthening the city's ability to deal with taxicab service levels and compliance.

The question of which type of taxicab regulation or variation is best for any city depends upon the need for taxi and taxi-type trips of the city and the current state of existing taxicab companies and existing regulations. A medallion system would not work well in a city that required a large number of dispatched calls. A franchise model may be appropriate if the current taxicab service providers are failing in the delivery of the desired level of service. Finally, an open entry approach with variable rate making by all market participants has proven over the years to lead to higher fares, poorer service for some, and a need to reregulate in later years.

Managed Competition Systems

Therefore, for many communities, some form of managed competition appears to be an approach that achieves the aims of the city for this vital public transportation alternative without requiring large amounts of personnel to manage independent contract medallion drivers and achieving service to all elements of their community.

As demonstrated in this report, the City of Houston, given its existing taxi service demand, and service levels, is not primarily a hail market. Therefore, a medallion approach would not be feasible without a significant boost of manpower on the street to monitor the drivers. Given the geographic areas served and the markets surveyed, all indications are that the City of Houston enjoys very good taxi dispatch service but needs to work on vehicle and driver appearances for the visitor. The same service level benefits of the franchise approach can be achieved over time with a strategy of requiring all taxi permits to be value added permits through providing a full range of dispatch, contracted, stand, and hail services. Driver knowledge and service compliance can be achieved through improved screening and training.

TAXI REGULATION IN OTHER MAJOR CITIES

Every city is somewhat unique and its taxi situation is also more different from most other communities making direct comparison difficult. However, TTLF has worked with a number of medium and large cities with taxi fleets and companies similar in size to that of Houston. Specifically, there are some similarities and significant differences among the communities of Houston and Denver, Colorado; Miami, Florida; Salt Lake City, Utah; and sister cities within Texas such as San Antonio, Dallas, and Austin; all of which have previously engaged TTLF for similar taxi studies. Taxicabs are extensively used in each city. Some have a large number of taxi companies such as Miami, but most have one or two primary full service taxi companies that serve the prearranged and dispatch market rather than airport walkup; hail; stand or hotel taxi markets.

Of these cities, Denver would be the closest comparison and would offer the most comparative lessons for Houston. Two taxi firms had dominated the taxi market there – each with more than 400 vehicles in their respective fleets; most of which they could double shift when the demand arises. A third taxi firm, envisioned originally as a co-op, petitioned to enter into the market and after much debate, the state’s Public Service Corporation ordered that a third firm be entitled to enter the market with 150 permits. Being undercapitalized and lacking professional management, the new entrant has never been able to develop dispatch or call business but rather, its taxicabs ply the airport, taxi stands, and street hails. More recently, the state’s PUC has permitted another co-op group to add another taxi company with 150 vehicles with the same result of deteriorating non-dispatch service and an oversupply of taxicabs thereby depressing driver incomes.

The Texas sister cities of San Antonio, Austin, and Dallas also have some comparative lessons for Houston. Both San Antonio and Austin have at least one if not two full service taxi companies that take a long run view of their market place and offer good dispatch services. However, both cities have smaller taxi companies that, while required to have 24-7 taxi dispatch, have never been able to generate significant call business and drivers work primarily the airport. However, there are continuous complaints of poor service and drivers desiring more and higher flat fares from the airport to compensate them for their long waits at the airport for a fare.

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The City of Dallas and the large Dallas-Ft-Worth (DFW) airport complex have continuously studied the problems associated with their taxicab services. Numerous problems have occurred with poor services, short trip refusals, overcharging customers, and long-tripping to name only a few. While the City of Dallas has attempted to solve some of their problems with regulatory patches such as a five year limitation on vehicle ages (now increased to six years) and a ten percent reduction in the number of taxi permits, the industry is still oversupplied and faces fare and vehicle competition from sedan and limousine operations which are not regulated for entry and minimum fare. Currently the Cities of Dallas, Ft. Worth, and other cities surrounding DFW are attempting to develop a regional approach to taxicab and limousine regulations.

Miami, Florida is an example of a large metropolitan area that has experienced the fragmentation of taxi service through the issuance of individual permits as taxi medallions. While there are only two or three functioning taxi dispatch companies, there are 39 or more separate taxi companies with no dispatch or marketing to speak of. It is one of the few cities where a taxi driver may have two radios in his taxi – one from his taxi firm and one from Yellow Cab since it is by far the largest taxi dispatch company in the metropolitan area. Yellow Cab is unable to get its drivers to serve all their customers so it has opened up their radio system to any other cab driver who wishes to buy their dispatch service. You may call Yellow and have a Green taxi come to pick you up. Needless to say, supervising taxi service in this type of chaotic situation is very difficult for regulators. As will be discussed below in the Houston-specific taxi analysis, the industry in Houston has similar color scheme issues that have become one of the largest sources of customer dissatisfaction with the local industry.

Salt Lake City is offered as an unlikely comparison city due to its size but because of its situation some time ago of having too many taxis on the streets and a severely deteriorated taxi system, it does represent the lengths that a Mayor and City Council may go to in order to clean up their communities' poor taxi services. Salt Lake City had 220 taxis that were being offered by three taxi companies – one large and two small. Taxi service, age of vehicles, and rude behavior of drivers had become an embarrassment to the Salt Lake City hotel industry. These factors, coupled with the taxicab industry's reluctance to add any wheelchair accessible equipment led City Council to recall all taxi permits and competitively contract their taxi operations utilizing a taxi franchise approach developed for the California cities of Los Angeles, Anaheim, Coachella Valley, and now Santa Monica.

It required several years to rewrite the city's ground transportation ordinance and prepare the RFP for taxi services, as well as clear the legal objections posed by the existing taxi companies. The City of Salt Lake, Utah let an RFP which requested that there be two, three or four taxi companies each with a minimum of 50 taxis in order to support the technology, reporting, and vehicle requirements of the RFP. Vehicles were to be newer, greener, and service was to be improved in several ways. Seven comprehensive proposals were received and five were selected for further review. Finally two taxi companies were chosen – one with 150 vehicles and other with 50 vehicles. Both bidders proposed to utilize completely new alternative fueled vehicles with modern dispatch and electronic reporting to the City. Currently some last minute court ordered delays are holding up the introduction of these new service providers in Salt Lake City.

It has been the experience of TTLF researchers in conducting similar taxi studies in North American cities of all sizes that whatever level the bar is set in these competitive bids for taxi services, either for cities or airports, taxi companies have no problem in rising to these standards. Rarely do they bid above the requirements of a taxi RFP, but somehow they find the ability to meet these community or airport requirements.

TAXI REGULATION IN HOUSTON

Like other cities, the City of Houston consistently asserts that it regulates vehicles-for-hire for the health and safety of the riding public. There are eight categories of vehicles regulated under the City of Houston's applicable ordinances (Chapters 9 and 46 of the Houston Code of Ordinances): taxicabs, limousines, private school buses, charter and sightseeing buses, jitneys, pedicabs, low speed shuttles and scheduled ground transportation vehicles (SGTs). With the exception of SGTs, these vehicles-for-hire regulations are administered primarily by the Transportation Section of the Administration & Regulatory Affairs Department (ARA).

As stated previously, Houston currently has 2,480 taxicab permits administered through 143 companies. However, 75% of these permits are held by two large, full service taxicab companies. Below is a detailed analysis of the existing taxicab market in Houston, as well as the proficiencies and deficiencies of this market.

Houston Taxi Markets

Every community has distinct taxicab market generators. A few of these trip generators would be the presence of a busy airport or urban residents who use taxis on a regular basis. Or local residents who depend upon taxi services for emergency and occasional trips not easily made on public transit. The presence of a large elderly, retirement, and/or a tourist population who use taxi service for medical, social, and entertainment (dining out) activities also affects overall taxi market demand. Thus, each community is somewhat unique in its various market demands for taxi services.

Within Houston, taxi services are extremely important to the local users of all income levels for school trips, airport trips, grocery shopping, medical appointments, entertainment/eating out, and generally getting around when an automobile is not the preferred option or inconvenient. Taxi services are important and frequently used options for visitors, tourists, and residents alike.

Houston taxis have several demand points which generate a significant percentage of their daily demand. Two of these sources would be its airports – Hobby and Bush

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Intercontinental. Traditionally, Hobby Airport has serviced domestic flights, while Bush Intercontinental Airport is Houston's international connection (although this dynamic will start to change as international terminals are built at Houston Hobby). Other taxi demand points would be public taxi and hotel stands where individuals can obtain taxi services without making a reservation. However, the vast majority of dispatched taxi trips are provided through two taxi dispatch systems –The Greater Houston Transportation Company and Houston Transportation Services, LLC. Thus, taxi dispatch companies are essential in the scheme of taxi services for Houston since it is the taxi company that arranges all of these trips either through their call/dispatch center or contracts with school, individual company accounts, medical facilities, ADA provided trips, and simply their brand name.

As will be shown later in this report, Houston taxi trips are a mixture of long (typically airport) trips and short trips of a few miles. The resulting average fare is around \$20. However, these short trips, in the relatively dense areas of Houston, represent a large number of trips per day per vehicle which are easily served with a minimum of deadhead mileage if coordinated through modern GPS taxi dispatch systems. Houston also has a special taxi flat fare that offers customers a trip anywhere within the downtown area for only \$6.00 or their Six in the City program.

General Houston Taxi Industry Statistics

The Houston taxi industry is composed of more than 3500 drivers and 2480 vehicles. In October 2013, 143 authorized taxicab companies were operating in Houston. Combined these companies hold 2,480 taxicab permits for the operation of taxicabs within the City. The majority of the companies hold one permit – 70. Another two hold 58 permits, followed by 3 with 36 permits. Houston's largest taxi operator holds 1,446 permits — Greater Houston Airport Taxi, followed by Houston Transportation Services, LLC with 404 permits and Central Cab with 116. This number will vary from month to month as individual permits are traded with old companies going out of business and new ones emerging. The Table below summarizes the permit distribution:

Figure 2

1	70
2	29
3	12
4	4
5	4
6	2
7	5
8	6
10	1
13	1
16	1
23	1
36	2
39	1
46	1
116	1
404	1
1446	1

Figure 3

Company Name	Address	City	State	Zip	Phone	# of Permits
GREATER HOUSTON AIRPORT TAXI	1406 HAYS	HOUSTON	TX	77009	713-224-4445	1446
HOUSTON TRANSPORTATION SERVICES, LLC.	5825 KELLEY ST	HOUSTON	TX	77026	832-859-1764	404
CENTRAL CAB	9826 ALDINE	HOUSTON	TX	77093	713-266-8014	116
NATIONAL CAB CO. (MULTIPLE DBA)	1005 ST. EMANUEL	HOUSTON	TX	77005	713-649-4145	46
CITY CAB	6002 BONESS	HUMBLE	TX	77396	713-649-2000	39
444 TAXI	6002 BONESS	HUMBLE	TX	77396	713-649-2000	36
METRO CAB COMPANY	9826 ALDINE WEST	HOUSTON	TX	77093	713-266-8014	36
HAYAT CAB (MULTIPLE DBA)	3354 ROGERDALE	HOUSTON	TX	77042	713-385-3746	23
PASADENA TAXI INC.	311 WEST SHAW	PASADEN	TX	77506	713-477-6000	16
CROWN CAB MULTIPLE DBA)	8303 SOUTHWEST	HOUSTON	TX	77074	713-478-3648	13
PLAZA CAB	6002 BONESS RD	HUMBLE	TX	77396	281-821-8989	10
ADULIS CAB COMPANY (MULTIPLE DBA)	13114 STATFORD	HOUSTON	TX	77072	713-922-2761	8
ASMARA CAB COMPANY (MULTIPLE DBA)	3214 CHALFONT DR	HOUSTON	TX	77066	832-277-0280	8
DISCOUNT CAB CO. (MULTIPLE DBA)	8802 PECAN PLACE	HOUSTON	TX	77071	713-771-6105	8
LIXSON CAB (MULTIPLE DBA)	9218 MACMILLIAN	HOUSTON	TX	77083	713-660-6349	8

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Company Name	Address	City	State	Zip	Phone	# of Permits
MENNA CAB	2921 INDIGO DR	PEARLAN	TX	77584	281-704-7774	8
MOCKINGBIRD CAB (MULTIPLE DBA)	14815 NEWTON	SUGARLA	TX	77478	832-816-5297	8
CHAMPION CAB (multiple dba)	16325 MELLOW OAK	SUGARLA	TX	77478	713-294-3243	7
EZ CAB COMPANY	2355 BINLEY DRIVE	HOUSTON	TX	77077	713-236-9180	7
GREEN CAB (MULTIPLE DBA)	2422 PARKHAVEN	SUGARLA	TX	77478	281-265-7077	7
HOUSTON A CAB COMPANY (MULTIPLE DBA)	3131 HAZEL PARK	HOUSTON	TX	77082	832-276-4756	7
JR'S TAXI (MULTIPLE DBA)	7200 CLAREWOOS	HOUSTON	TX	77036	713-545-4777	7
GOOD CAB	6300 HILLCROFT	HOUSTON	TX	77081	832-274-4181	6
IHOP CAB (MULTIPLE DBA)	11726	HOUSTON	TX	77071	832-419-2925	6
BLUE CAB COMPANY	2532 FONDREN	HOUSTON	TX	77063	713-208-8547	5
CHE CAB	16318 NORTH MIST	HOUSTON	TX	77073	281-443-3481	5
ORANGE CAB	8427 QUAIL HILL DR	MISSOURI	TX	77489	281-438-6022	5
TAXICAB 4 YOU	11850 BISSONNET	HOSUTON	TX	77099	281-988-8245	5
AMERICAN CAB CO.	3735 WINDMILL	HOUSTON	TX	77082	832-271-6251	4
CLEAR LAKE CAB	175 ALABAMA AVE	LEAGUE	TX	77573	281-832-5921	4
EKO CAB COMPANY (MULTIPLE DBA)	10555	HOUSTON	TX	77072	713-240-4737	4
UNIVERSAL CAB CO. (MULTIPLE DBA)	7900 BELLAIRE	HOUSTON	TX	77036	713-478-3648	4
ADVANTAGE CAB (MULTIPLE DBA)	6803 MISSION BEND	HOUSTON	TX	77083	281-250-9200	3
APOLLO TOWN CAR (MULTIPLE DBA)	10051 WESTPARK	HOUSTON	TX	77042	713-498-7104	3
BELL CAB COMPANY (MULTIPLE DBA)	9410HEFLIN	SUGARLA	TX	77498	832-607-0976	3
CAPITAL TAXI	9803 SHIVE DR	HOUSTON	TX	77078	713-298-1630	3
GLOBAL GREEN CAB	8206 WIND GROVE	HOUSTON	TX	77083	713-988-5126	3
LION CAB	1610 BIG HORN DR.	HOUSTON	TX	77090	281-893-9157	3
MESKI CAB COMPANY	9809 RICHMOND	HOUSTON	TX	77042	832-713-2090	3
RED CAB	P.O. BOX 416	FRESNO	TX	77545	281-431-2553	3
SKYLINE CAB	7000 GREENBRIAR	HOSUTON	TX	77030	713-664-6726	3
STANDARD CAB	9823 CASTLE CREST	HOUSTON	TX	77083	832-330-0303	3
TEXAN CAB	P.O. BOX 22346	HOUSTON	TX	77227	713-304-6369	3
THR TAXI (MULTIPLE DBA)	20026 DEERBROOK	HUMBLE	TX	77338	832-887-1316	3
ASHANTI CAB	1526 CARTWRIGHT	MISSOURI	TX	77489	713-240-7339	2
BROOKS TRANSPORTATION	4905 CARMEN	HOUSTON	TX	77033	713-542-4775	2
CHECKER CAB	16306 DRY GERRY	HOUSTON	TX	77083	832-419-0618	2
COMFORT CAB COMPANY	4703 LONG OAK RD	HOUSTON	TX	77093	281-449-8294	2
COMPASS TRANSPORTATION CO. (MULTIPLE DBA)	P.O. BOX 266452	HOUSTON	TX	77207	832-452-6449	2
DIAMOND CAB	5707 TURNER OAKS	HOUSTON	TX	77085	281-687-6162	2
EAGLE CAB	6500 SANDS POINT	HOUSTON	TX	77074	832-868-5953	2
EXECUTIVE CAB	6822 RIDGEWAY DR	HOUSTON	TX	77087	713-644-5466	2
EXPRESS CAB (MULTIPLE DBA)	8234 SONESTA	HOUSTON	TX	77083	713-922-9194	2
HARRIS CAB COMPANY (MULTIPLE DBA)	10935 WESTBRAE	HOUSTON	TX	77031	281-235-4021	2
INTERSTATE CAB	5909 FONDREN #205	HOUSTON	TX	77036	832-283-1416	2

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Company Name	Address	City	State	Zip	Phone	# of Permits
JORLLY CAB COMPANY	7118 CALIX LANE	HOUSTON	TX	77083	832-282-2426	2
LA FLEUR CAB	4002 OLD PINE	HUMBLE	TX	77346	832-236-8923	2
M.C. CAB COMPANY	12810 CANDACE CT	MISSOURI	TX	77489	832-887-1293	2
M.Y. CAB CO	2907 RICHLAND	SUGARLA	TX	77479	713-444-4849	2
NILE CAB	8430 BICKHAVEN	HOUSTON	TX	77083	832-434-8596	2
OLYMPIC CAB COMPANY	10747 VILLA LEA LN	HOUSTON	TX	77071	832-545-8426	2
PARS CAB (MULTIPLE DBA)	2615 CLEAR RIDGE	KINGWOO	TX	77339	281-546-3026	2
PAYLESS TOWN CAR	7979 WESTHEIMER	HOUSTON	TX	77063	281-650-6576	2
ROAD MASTER CAB COMPANY	7818 OAKINGTON	HUOSTON	TX	77071	832-875-0534	2
SAMTEX CAB COMPANY	16014 BECK RIDGE	HOUSTON	TX	77053	281-546-1944	2
SILVER CAB CO. (MULTIPLE DBA)	13511 CATALINA	HOUSTON	TX	77083	832-212-2465	2
SPRING CAB (MULTIPLE DBA)	6103 RAMPART DR.	HOUSTON	TX	77081	281-827-0227	2
STAGE CAB COMPANY (MULTIPLE DBA)	2011 RUFFIAN LANE	STAFFORD	TX	77477	713-459-0185	2
TEXAS CAB (MULTIPLE DBA)	5605 CHIMNEY	HOUSTON	TX	77081	281-620-5733	2
TOWN CAB CO.	7707 LOBERA DR.	HOUSTON	TX	77083	281-277-1593	2
VISION CAB (MULTIPLE DBA)	7900 BELLAIRE	HOUSTON	TX	77036	713-248-4833	2
WEST MONTGOMERY CAB	7518 EAST MAXROY	HOUSTON	TX	77088	713-695-8271	2
WESTERN CAB COMPANY (MULTIPLE DBA)	2003 RUFFIAN LN	STAFFORD	TX	77477	713-291-8953	2
24 HOUR TAXI	11247 RIDGEPARK	HOSUTON	TX	77089	832-512-2399	1
A & M TOWNCAR	18110 RED ASH	RICHMON	TX	77469	832-630-5824	1
A BETTER CAB	8787 BRAE ACRES	HOUSTON	TX	77074	832-526-7616	1
ALPHA CAB	5711 GULFTON	HOUSTON	TX	77081	832-775-6201	1
AMBASSADOR TOWN CAR	8910 DIAMOND	HOUSTON	TX	77083	832-775-6201	1
AMERI-TEX CAB COMPANY	5825 GULFTON ST	HOUSTON	TX	77081	832-228-7451	1
APPLE CAB COMPANY	9797 LEAWOOD DR	HOUSTON	TX	77099	832-689-1218	1
ARMADILLO CAB	19627 VERNIER	SPRING	TX	77379	82-326-6820	1
ARROW CAB	12047 GREEN	HOUSTON	TX	77099	281-620-7402	1
BLESS TOWNCAR	3614 SHASTA CT	PEARLAN	TX	77584	832-275-1089	1
CHASE TOWN CAR	16519 TERRACE	SUGARLA	TX	77478	713-392-9973	1
CITIZEN TOWN CAR	8835 PECAN PLACE	HOUSTON	TX	77071	713-922-8129	1
CRUISE TOWN CAR	13435 PARKSTONE	HOUSTON	TX	77083	713-894-1099	1
DASHEN CAB	6500 SANDS POINT	HOUSTON	TX	77074	281-235-9922	1
DELTA CAB	8903 FONDREN	HOUSTON	TX	77071	832-455-7891	1
DOCKERY TAXI	PO BOX 450853	HOUSTON	TX	77245	832-409-6970	1
EBENEZER CAB CO.	12714 ASHFORD	HOUSTON	TX	77082	281-236-2916	1
FAIR CAB	15719 AMAPOLA DR.	HOUSTON	TX	77083	832-526-7403	1
FALCON CAB CO.	13127 PINE THICKET	HOUSTON	TX	77085	832-202-9424	1
FANTASTIC TOWN CAR	9888 UNITED DR	HOUSTON	TX	77036	832-656-8390	1
FAST CAB	15319 WAUMSLEY	SUGARLA	TX	77478	713-252-2461	1
FLAMINGO CAB COMPANY	P.O. BOX 5515	HOUSTON	TX	77262	832-297-1787	1

Company Name	Address	City	State	Zip	Phone	# of Permits
G E TAXI	14268 PAPADOSA	HOUSTON	TX	77053	713-291-2691	1
GET TOWN CAR CAB	10818 PAUL WOOD	HOUSTON	TX	77071	713-269-8946	1
GLOBAL CAB	18242 WEST RIDGE	CYPRESS	TX	77433	281-989-7519	1
GLORY TAXI	7814 VICKIJOHN DR	HOUSTON	TX	77071	713-446-8679	1
GRACE CAB	5623 MASON OAKS	HOUSTON	TX	77085	713-446-7992	1
H & E TOWN CAR	3135 AUTUMN JOY	PEARLAN	TX	77584	832-656-6440	1
HR'S CAB	5738 REED ROAD	HOUSTON	TX	77033	713-550-6965	1
IBEX CAB	6001 REIMIS RD #506	HOUSTON	TX	77036	713-240-9054	1
IKE CAB COMPANY	8615 SAINT LO	HOUSTON	TX	77033	713-734-0215	1
IMAGE CAB	8934 WEST PLACE	HOUSTON	TX	77083	713-291-5363	1
IMPERIAL TOWN CAR	5401 RAMPART ST.	HOUSTON	TX	77081	713-204-2101	1
J.W.A.M. CAB	16303 PEBBLE	HOUSTON	TX	77083	832-512-2052	1
KCL CAB	8002 BELLAIRE	HOUSTON	TX	77036	281-235-3448	1
KEREN TOWN CAR	6500 SANDSPOINT	HOUSTON	TX	77074	832-287-6485	1
KING CAB	8846 ASPEN PLACE	HUOSTON	TX	77071	713-972-4782	1
LEGEND TOWN CAR	13119 CAREY WOOD	SUGARLA	TX	77478	713-517-8996	1
M.H. CAB	21808 MAIDENS	KINGWOO	TX	77339	281-962-4591	1
MARATHON CAB	12207 PLUM BROOK	HOUSTON	TX	77099	832-293-5298	1
MAYFLOWER CAB CO.	10715 HERALD	HOUSTON	TX	77099	713-385-0635	1
MCGILL CAB	3238 KNOTTY OAKS	HOUSTON	TX	77045	281-827-2824	1
NABEEL CAB CO.	8934 WEST PLACE	HOUSTON	TX	77071	713-459-5465	1
NEBIYAT CAB COMPANY	6245 RENWICK DR	HOUSTON	TX	77081	832-283-1415	1
NEW FLOWER TOWNCAR	4826 IBIS LAKE	KATY	TX	77449	832-288-2524	1
NORTHSIDE CAB COMPANY	2803 QUIET	HOUSTON	TX	77067	281-923-0757	1
NOTRE DAME CAB	9700 LEAWOOD	HOUSTON	TX	77099	832-866-0243	1
NOVA CAB	5835 GULFTON	HOUSTON	TX	77081	713-894-1881	1
ON TIME & HHY CAB CO.	5909 FONDREN	HOUSTON	TX	77036	281-650-6145	1
ORAN CAB	11834 GREEN	HOUSTON	TX	77044	713-367-4515	1
ORIENT CAB	7022 TARA RD.	RICHMON	TX	77469	281-343-1426	1
PALACE CAB	P.O. BOX #186	HOUSTON	TX	77274	832-818-4005	1
PORT CITY CAB	6726 MCCULLUM	MISSOURI	TX	77489	281-437-6708	1
PROS. CAB	6245 RENWICK DR	HOUSTON	TX	77081	713-444-5814	1
REHOBOTH CAB CO.	14822 WAVERTON	SUGAR	TX	77498	832-276-1296	1
SAFE CAB	6303 GULFTON #207	HOUSTON	TX	77081	832-715-3305	1
SALEM CAB	6245 RENWICK DR	HOUSTON	TX	77081	832-868-5218	1
SHIRDOON CAB CO.	14101 RIOBONITO	HOUSTON	TX	77083	832-606-8754	1
SOLYA CAB CO.	7722 ROYAN DR.	HOUSTON	TX	77071	832-236-1557	1
ST. MICHAEL TAXI CAB	7814 VICKIJOHN DR	HOUSTON	TX	77071	713-446-8679	1
STAR CAB	P.O. BOX 60813	HOUSTON	TX	77205	832-646-9569	1
SUNNYSIDE CAB	6023 BELARBOR	HOUSTON	TX	77033	713-825-9507	1

Company Name	Address	City	State	Zip	Phone	# of Permits
SUPER A TAXICAB	6303 GULFTON #516	HOUSTON	TX	77081	713-391-4308	1
SUPREME CAB	8527 HEARTH #2	HOUSTON	TX	77054	832-875-1569	1
TEX-STAR CAB CO.	4122 RAIN WILLOW	HOUSTON	TX	77053	281-250-4963	1
THRIFTY CAB	614 GLENBURNIE	HOUSTON	TX	77022	713-376-4540	1
TRANSPORTER	6245 RENWICK	HOUSTON	TX	77081	832-297-4954	1
TRINITY TAXI	307 FOREST LAKE	SEABROO	TX	77586	281-831-2900	1
TROPICANA CAB	8787 BRAE ACRES	HOSUTON	TX	77026	832-287-7708	1
ZOBIL CAB	11719 COACHFILED	HOUSTON	TX	77035	713-376-4540	1
TOTAL NUMBER OF COMPANIES	143	TOTAL NUMBER OF PERMITS				2480

As shown later in this report, only two of the taxi companies provide modern dispatch service as a part of their operating lease sold to independent taxicab owner-drivers – Greater Houston Transportation Company and Houston Transportation Services. Therefore Houston’s taxi fleets would have to be considered fractionalized with two larger taxi companies comprising 75% of the total fleet of taxis and 141 companies 25% of the market. Within the two larger taxi companies, about 1600 taxis accept dispatch calls on a regular basis. These taxi drivers serve throughout and beyond the Houston municipal area.

The remaining taxi companies and their drivers serve the “hail” and “stand” markets including the airports and hotel taxi stands. More simplistically, in most taxi markets, there are three types of trips: dispatch, hail, and stand, with a fourth category of “personals”. The dispatched trips may be calls for immediate service or prearranged taxi trips that are put out for pick up at a certain time; there are all other trips, which may be stand or hail trips, usually airport, taxi, stands, hotels and street hails; and there are “personals” which the taxi driver arranges himself. In Houston, street hails are almost unheard of, thus, for purposes of this study, we will discuss primarily three types of trips: dispatched, “flag (which will include both stand trips and the few, if any, hailed trips)”, and personals.

The only exception to this traditional trip type in Houston would be the Six in the City service offered in the downtown area of Houston. In this area, taxicabs offer to transport passengers from any point within it to any other point within the zone for \$6. These trips are off-meter and thus are not currently counted by the companies in the total number of trips made by a taxicab on their shift.

It is common for a modern taxi dispatch system to have taxicabs assigned to zones to start a shift or a driver may decide independently what zone he/she wants to go to. Once in that zone the computer keeps track of which driver arrived there first and when trips are released by the computer, this driver gets the first opportunity to take the trip. If the trip is not picked up by the driver in the zone the longest, it goes to the driver who has the second longest time for being in that zone and so forth. If there is no one in that zone or no drivers pick up the call, the computer then goes to adjacent zones to repeats the process until a driver accepts the trip. Today, these modern dispatching systems, then automatically let the customer know of the taxi number sent to pick them up and the approximate time of arrival. Both of Houston's largest taxi companies appear to operate this way.

The other 141 taxi companies in Houston, without a common dispatch system, operate more like car service companies when not providing flag trips. They have telephone numbers that potential customers can call and, if the driver considers it a good trip, they have their own or a friend's taxi available, and take the trip. However, if the driver deems the trip to short or unattractive for any other reason, they refuse the trip by saying there are no taxis available. In some ways this behavior is to be expected because by not operating on a dispatch system, their chances of getting another call in an out of the way area after they have accepted a call to that area are slim to non-existent. Thus, they feel they are making a rational economic choice given the cost of gasoline and their time by refusing many short or trips they would have to reach only by covering a lot of deadhead miles. It is for these reasons that these drivers work mainly the airports, taxi stands, hotels, personals, and street hails.

The airport taxi market has a walk-up on-demand taxi line at each airport that is served by the non-dispatch cab drivers that are willing to wait 2, 3 or even 4 hours for the lucrative fare from the airport. On the other hand, with no dispatch service, they have little chance of being dispatched back to the airport so they hurry back to the airport in order to get back in the holding lot line up for trips to the airport curb. On the other hand, dispatched cab drives that are taking people to the airport mostly drop off and leave – preferring to not waste time in the holding lot when they could be working their dispatch for additional trips. Such common airport taxi systems are extremely wasteful of energy and the personal time of the drivers.

^^^

Drivers who lease permits from the 141 non-dispatch taxi companies, pay substantial weekly amounts for what essentially is a “**non-value added**” permit lease. While a driver may lease the taxicab and insurance from the permit holder, he/she may be paying a separate sum for just the use of the taxi permit. **The permit lease cost will vary, but drivers report paying anywhere from \$250 per week up to \$500 or more for just the lease as they supply their own cab and insurance.** Considering the permit holder pays the City of Houston only \$535 yearly to renew this permit, a \$250 weekly lease rate would represent an annual profit of nearly \$11,500 on an investment of \$535. Due to the lack of dispatch calls, these drivers work mainly the airport, taxi stands, hotels, restaurants, and their own personals. These drivers report that it is extremely difficult to achieve a decent income.

Alternatively, dispatched drivers from Houston’s largest taxi company provider, with 56% of the market, receive anywhere from 6 to 7 dispatch calls per day, on average, and represent a weekly income opportunity of \$900 per week or more. While these drivers may pay more for their weekly lease, (between \$480 and \$642) they are benefitting directly by the dispatched calls they receive, and indirectly by the brand name of the company they drive for. As typical of the full service taxi company, this operation provides considerable marketing and service contract work for its drivers.

Therefore, the primary long-run strategy recommended for the City of Houston from this study is to concentrate its efforts on ensuring that 100% of its taxi permits are value added permits, either through dispatch or pre-arranged business, thereby providing a driver with an income opportunity which is greater than their daily or weekly lease rate for the permit itself.

This framework of having one or two taxi companies servicing the call and prearranged market (vouchers, school, ADA, etc., trips) and the smaller operators serving flag trips is common in North America where the taxi industry, for one reason or another, has been permitted to devolve into a fractured industry where all companies may have the same label, “Taxi Company” but operate quite differently and serve distinctly different markets or at least different trip types of the same market with vastly different objectives.

STAKEHOLDER INTERVIEWS

Interviews with Taxi Firm Owners

Greater Houston Transportation Company

Greater Houston Transportation Company is the largest of Houston's 143 taxi companies operating several brand names which are Houston Yellow Cab, the largest by far with 1,101 vehicles, United Taxis with 72 vehicles, and Fiesta Taxi with 159 vehicles, and GHTC's town car service with 62 vehicles. The vast majority of GHTC drivers are owner operators who lease their operating, dispatching, and insurance from GHTC. All vehicles are operated on a single shift per day with the driver determining what hours he or she chooses to work.

While each of these three taxi companies has its own telephone number and charge the same meter fare, they are all dispatched from a common highly modern dispatch facility. As noted previously, Houston Yellow Cabs would be considered a Category 2 type taxi company, having ownership of its permits, owning a number of vehicles operated, providing dispatching, credit card processing, and extensive office facility, which includes full time telephone receptionist(s) and computerized taxi dispatch, a comprehensive repair facility, company offices, and extensive marketing of taxi contracts for services as depicted below. It is a large, comprehensive taxi operation capable of deploying 1446 vehicles throughout the 600 square miles of Houston daily.

Houston Yellow Cab is also the City's largest provider of wheelchair assisted taxi service. It has over 200 vehicles or approximately 14% of its fleet equipped with wheelchair lifts. While it is the primary private transportation carrier for Metro Lifts, these vehicles are also available for transportation to the general public – making Houston one of the most ADA compliant cities in North America when it comes to the availability of wheelchair equipped vehicles to meet existing demand. Houston Yellow Cab takes their responsibility to serve the disabled or wheelchair bound duties very seriously and continually provides feedback to drivers about complaints and issues surrounding these services.

The Houston taxi dispatch industry has responded to new developments in technology by providing their own mobile apps know as Hail-a-Cab Houston and the use of Taxi Magic

...

by their primary dispatch taxi competitor.

In addition to GHTC's fleet of Yellow, Fiesta, and United taxis, they also offer a luxury alternative Towne Car service at regular taxi rates. These vehicles are late model luxury sedans but have a dome light and a taxi number.

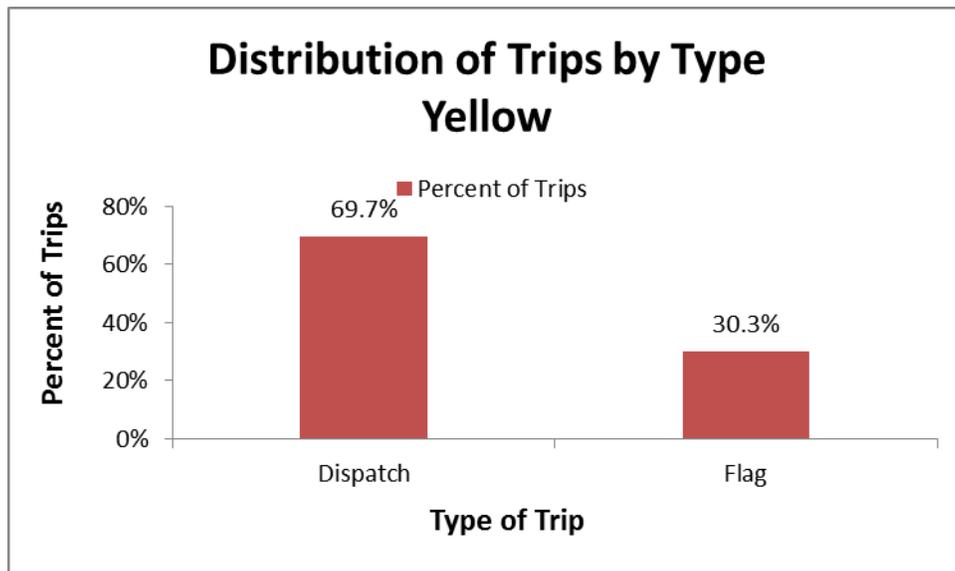
This Towne Car fleet is comprised of 62 vehicles, of which 59 are owner operator vehicles. The majority of cars, 37, are Lincoln Town Cars, with 20 Suburban Cars, and a few GMC Yukon's and a stretched Chrysler 300. As one might expect these cars are driven by drivers who are more experienced and typically those that have built up a client base of personal accounts. However, when not otherwise busy, and requested, drivers of these vehicles take dispatch calls just as other taxis in the GHTS fleet. As comprised, this fleet offers Houstonians the option of having a luxury sedan ride at taxicab fares.

Charts and Graphs for GHTC

GHTC was able to provide all data requested for this study of Houston's taxicab service. Data was supplied as raw files and verified as to its accuracy. Following is a statistical review of the taxicab service provided by GHTC.

Yellow Cab

A. This chart shows that most trips are dispatch trips

Figure 4

As shown, two thirds of Yellow Cabs trips are dispatched trips.

B. Types of Dispatch Trips

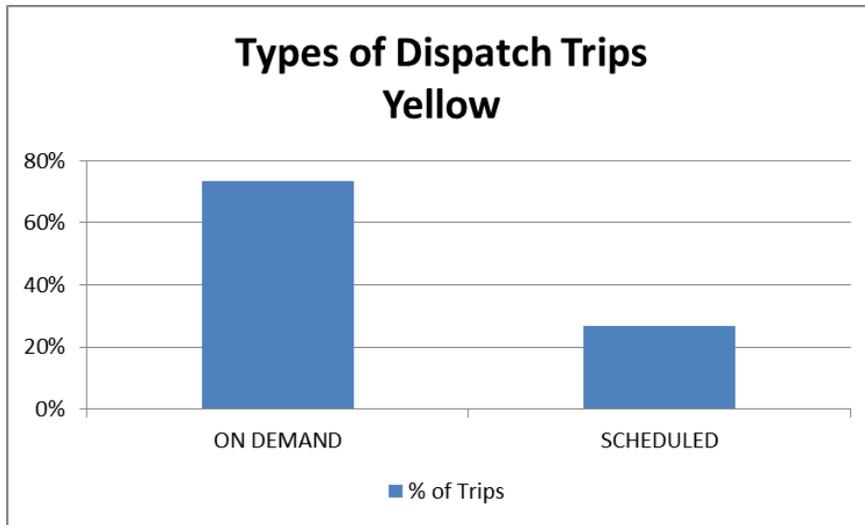


Figure 5

Within dispatched trips, two thirds are on demand from either voice, internet, or app calls.

C. Average Dispatch Trips

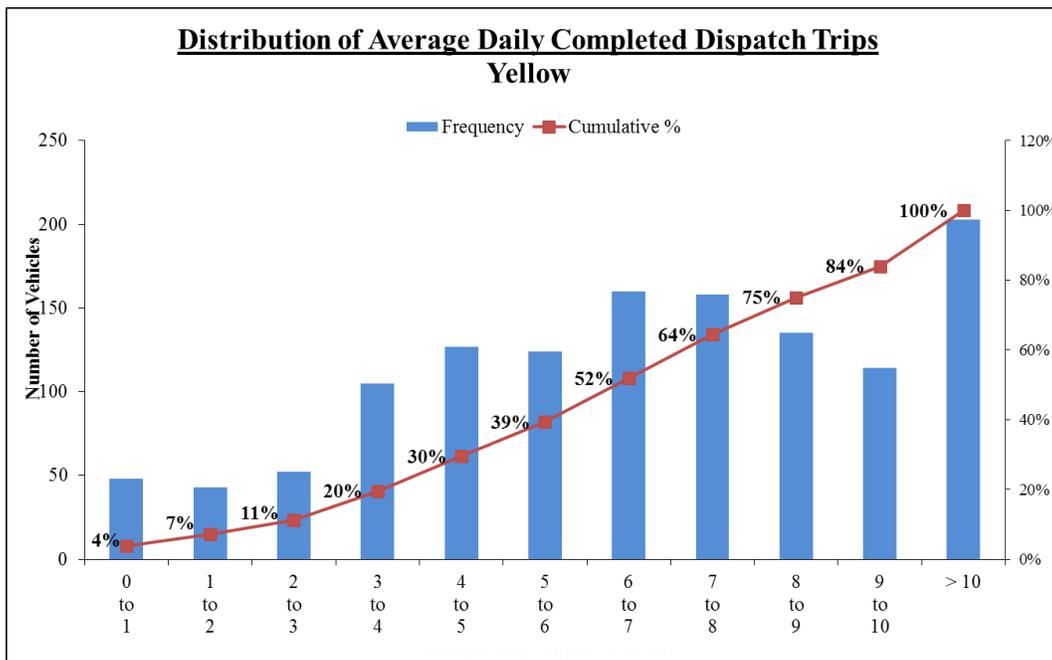


Figure 6

As shown above, Yellow Cabs received between 6 and 7 verifiable trips per day. At an average fare of \$20.11, this represents \$130 plus tips per day revenue potential to the Yellow Cab driver.

Note this analysis only identifies confirmed dispatch trips. Due to the nature of the industry, there is an inherent variability that occurs in the dispatch system data. While the average number of confirmed daily dispatch trips per driver is 6.4 trips per day, this average is likely up to 1.4 trips higher than what can be confirmed in the data. An example of a scenario that can cause this kind of variance is that a driver accepts a dispatch call, and upon arriving at the pickup location, no one appears to be there. The driver notifies dispatch that no one is there. This results in the trip being discharged in the system. As the driver begins to leave, the person appears and the driver takes the trip which no longer appears as servicing a dispatch call. Thus, if anything, the daily revenue potential per cab is understated.

D. In contrast, this chart shows that over 75% of vehicles complete more than an average of 2 flag trips per day.

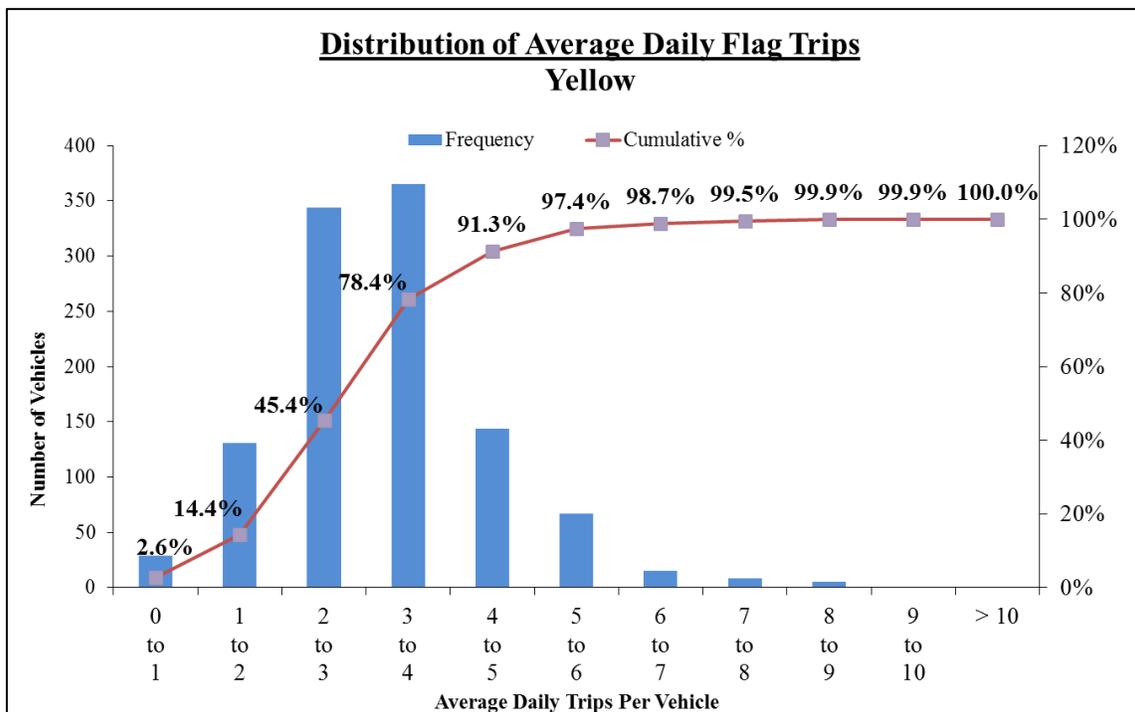


Figure 7

E. In this chart one can see that only about half of the taxis picked up only dispatch trips. By far most drivers work both dispatched and flag trips.

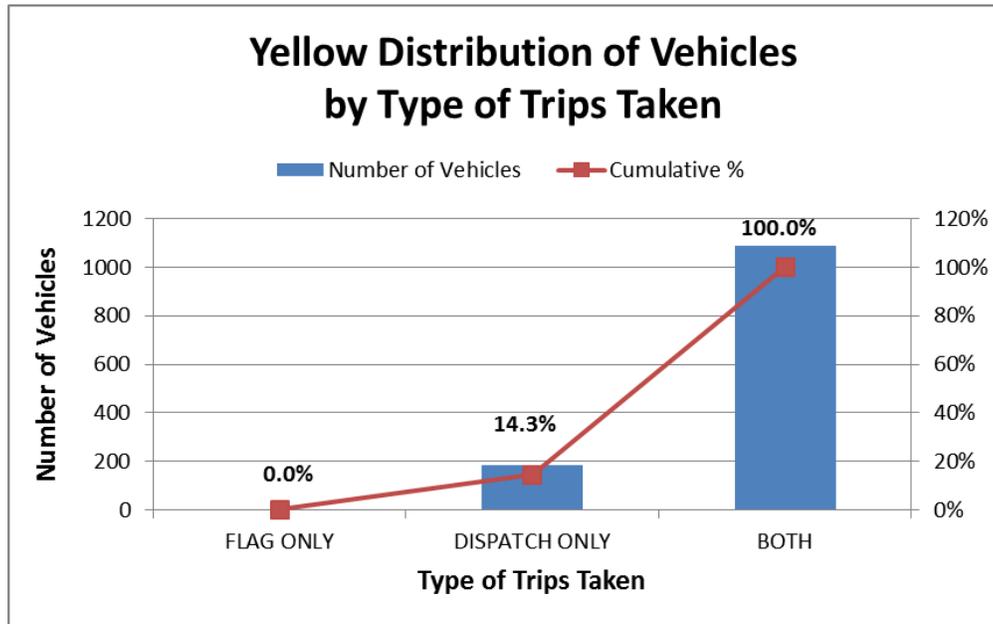


Figure 8

F. Distribution of Wait Times

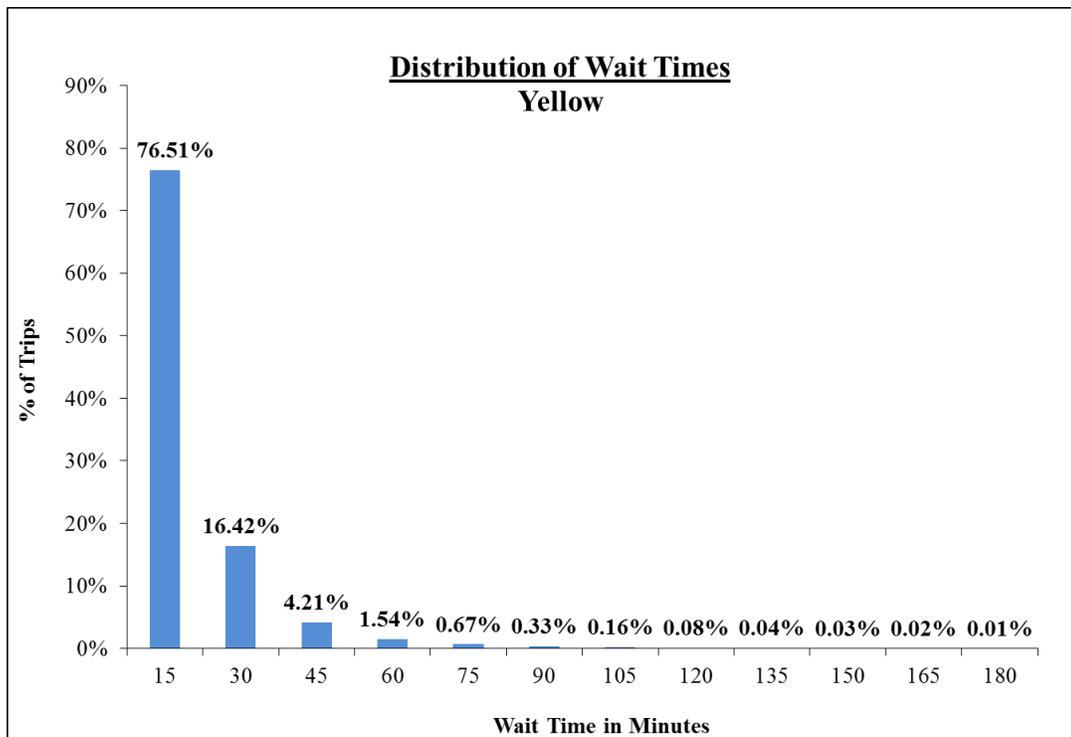


Figure 9

G. Average wait time is minimal. Most trips are served within 15 minutes but even calls from outside the downtown area are served within 30 minutes.

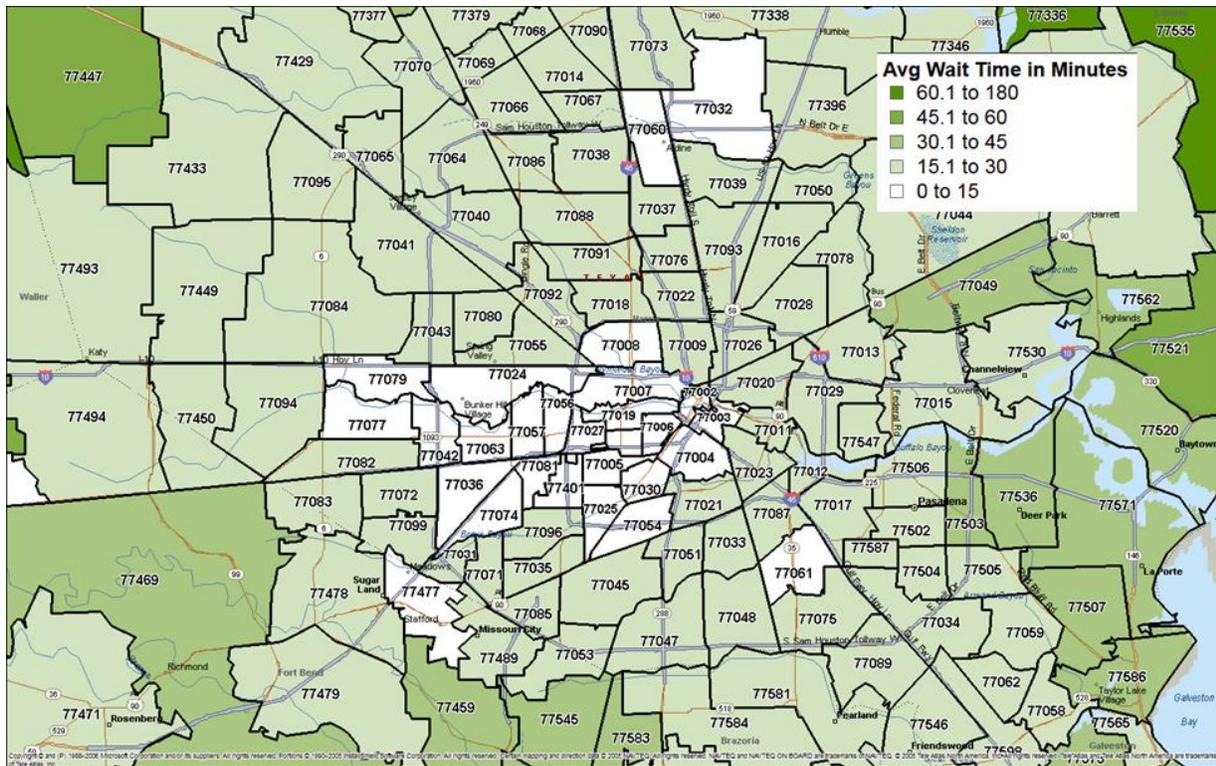


Figure 10

Similar statistical analysis was performed on data from Fiesta and United Cab

Fiesta

A. Trip Type.

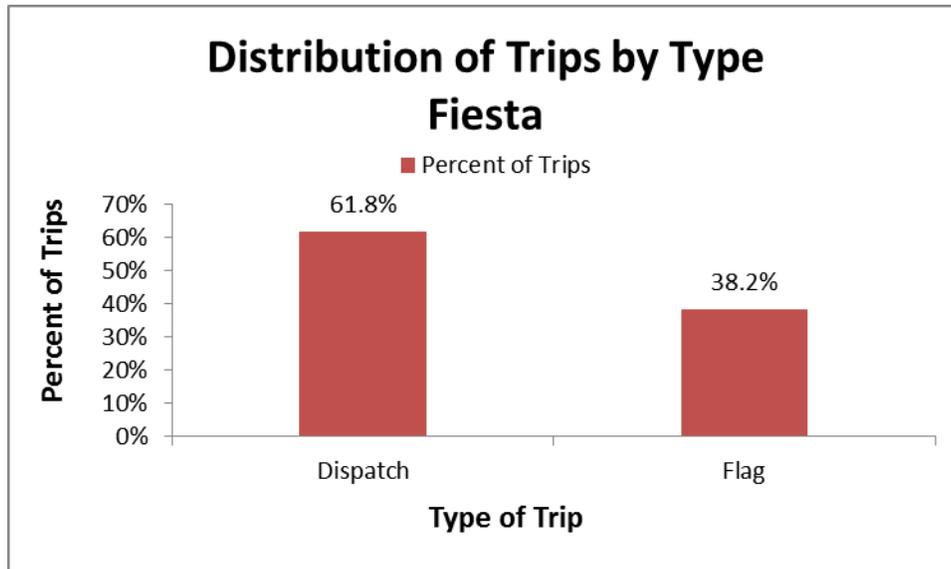


Figure 11

As shown, Fiesta and United Cab service characteristics are very similar to Yellow Cab although they appear to concentrate in different areas of the city.

B. Types of Dispatch Trips

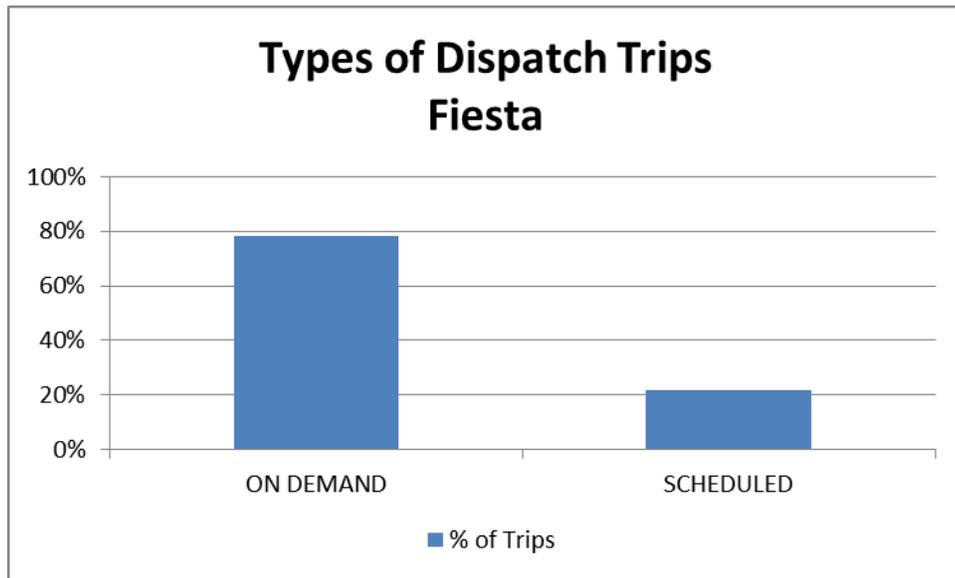


Figure 12

C. Average Dispatch Trips

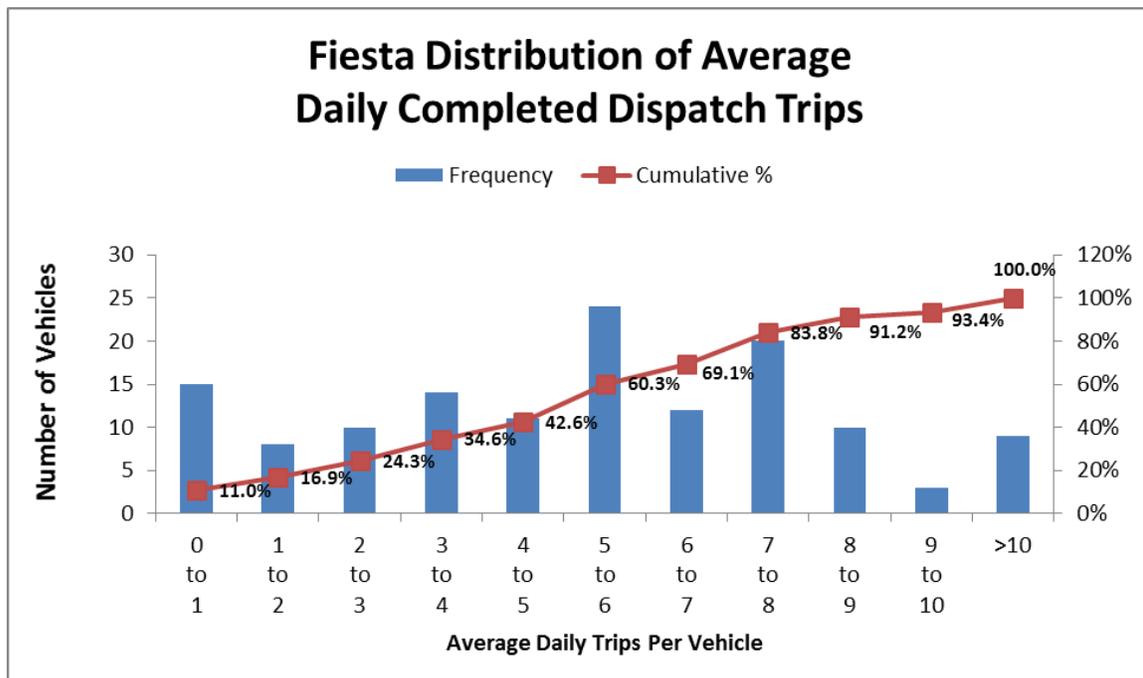


Figure 13

D. Flag trips distribution

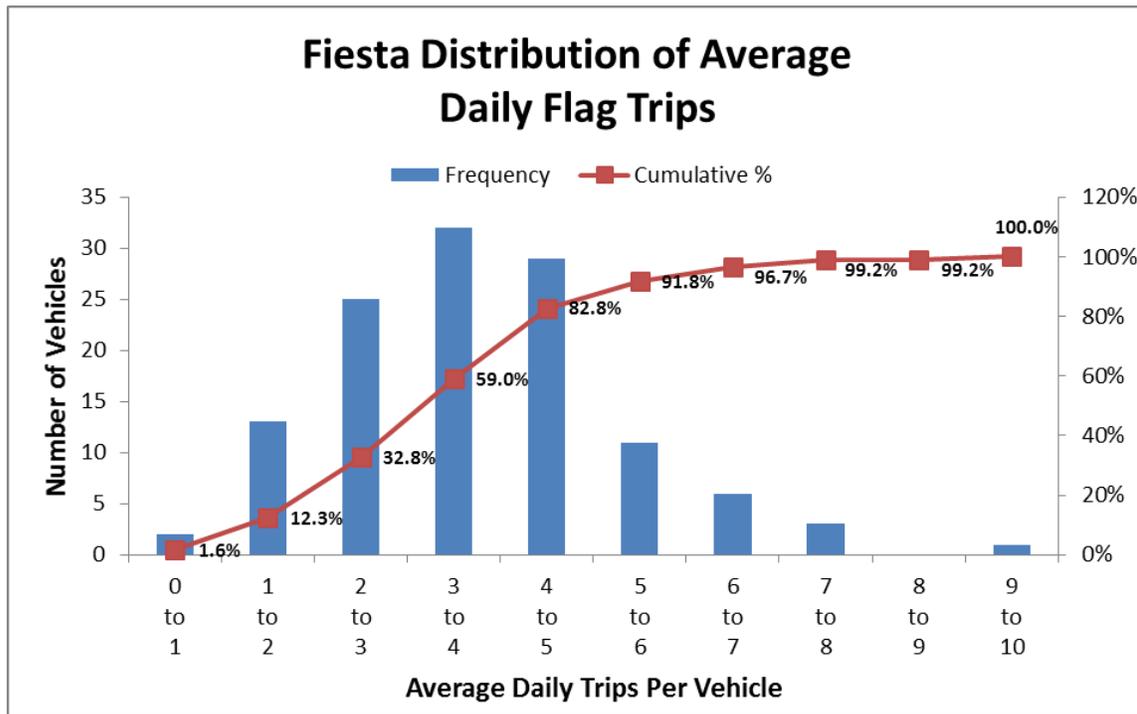


Figure 14

E. Distribution of Vehicle by Type of Trips Taken

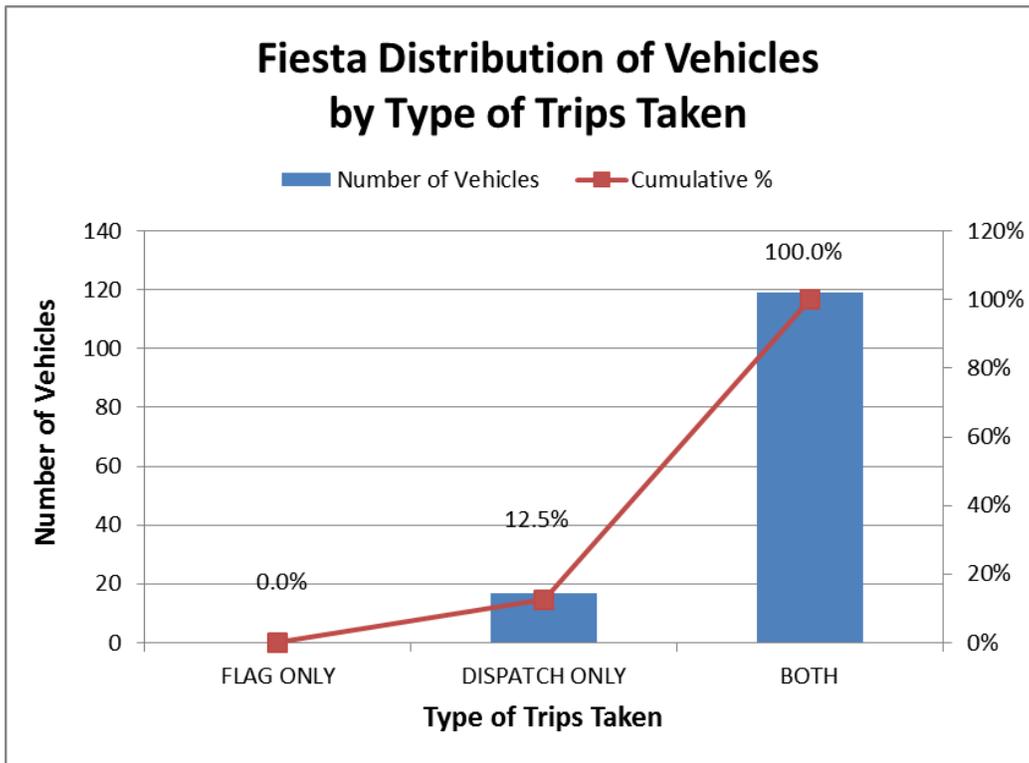


Figure 15

F. Distribution of Wait Time

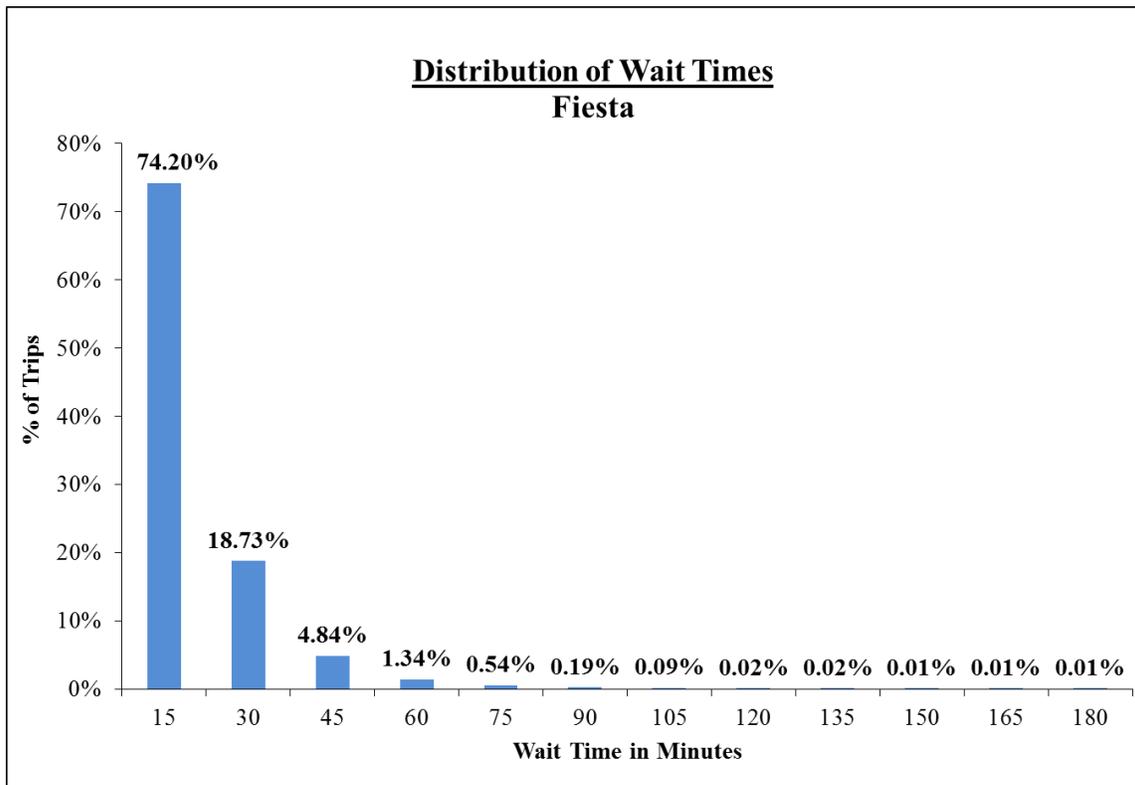


Figure 16

United

A. This chart shows that most trips are flag trips.

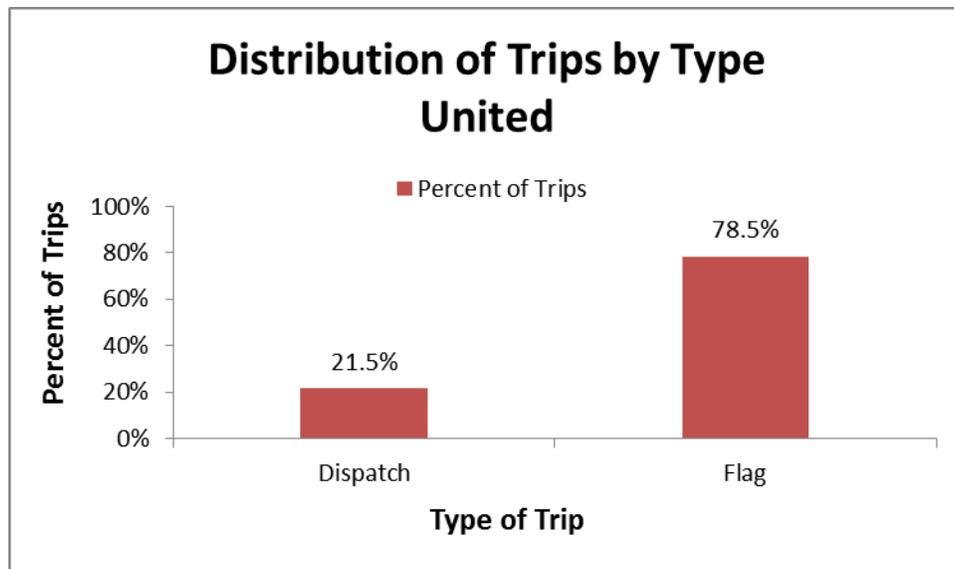


Figure 18

B. Types of Dispatch Trips

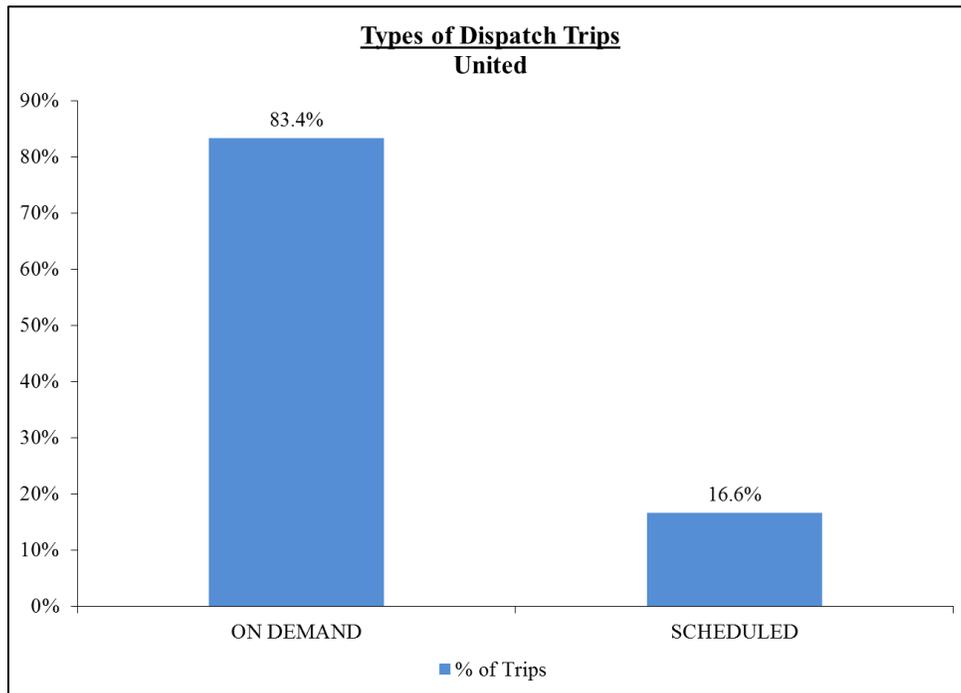


Figure 19

C. Average Dispatch Trips

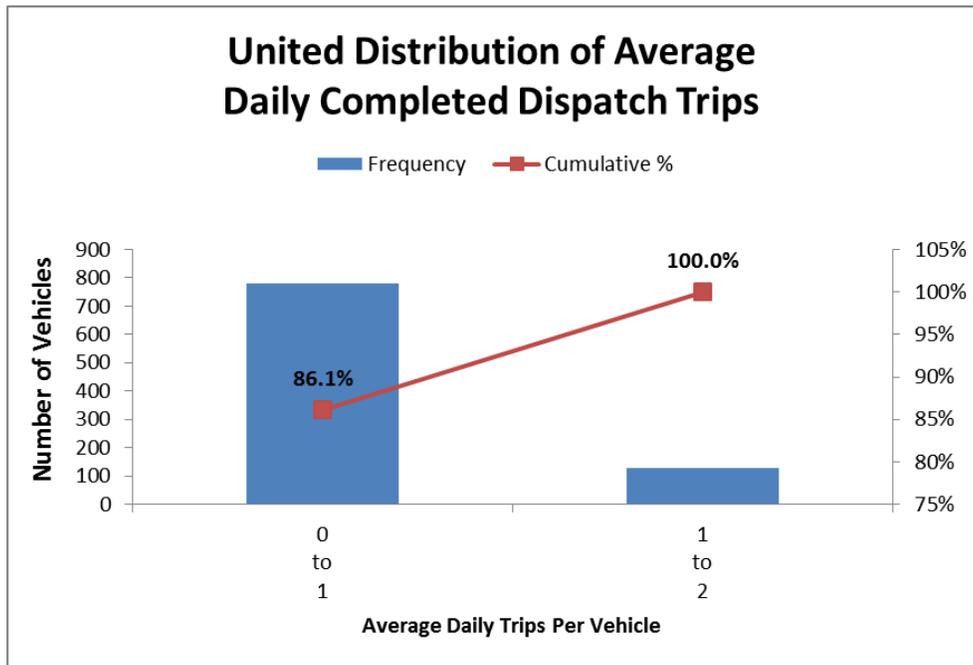


Figure 20

D. Flag trips distribution

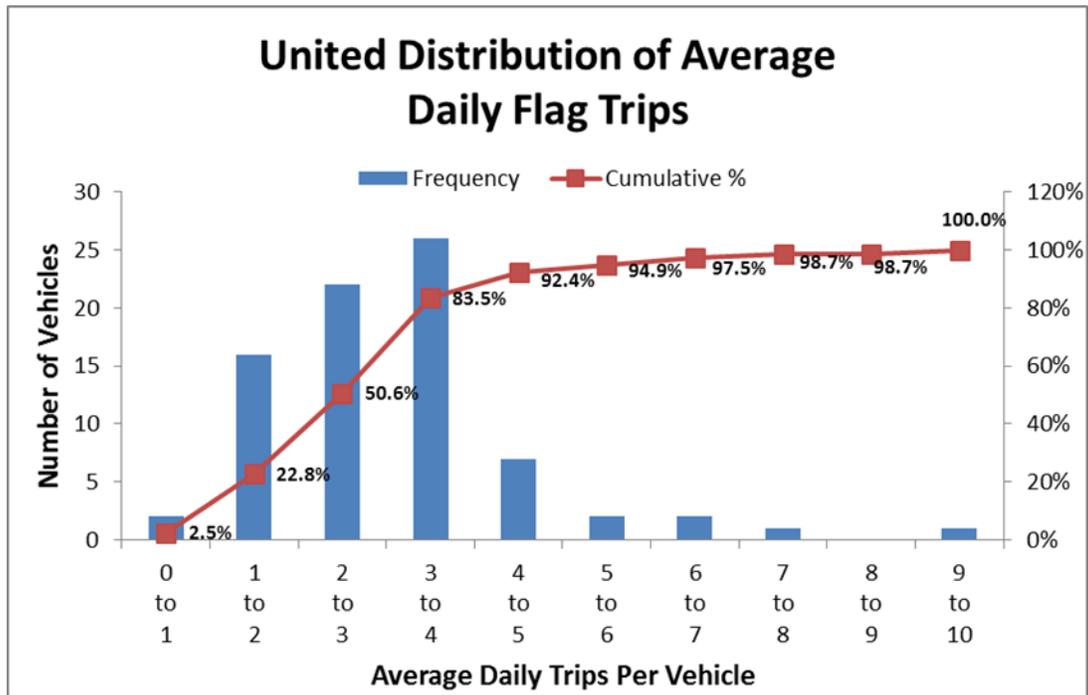


Figure 21

E. In this chart you can see that only about half of the taxis picked up a dispatch trip.

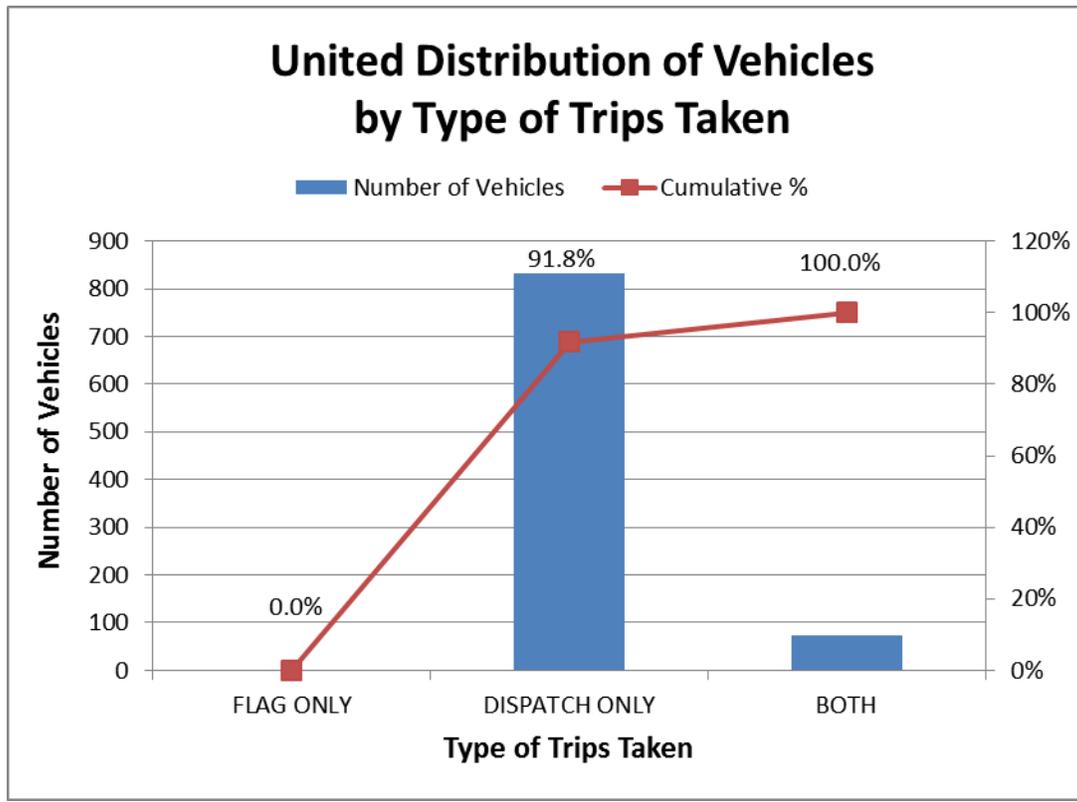


Figure 22

F. Distribution of Wait Time

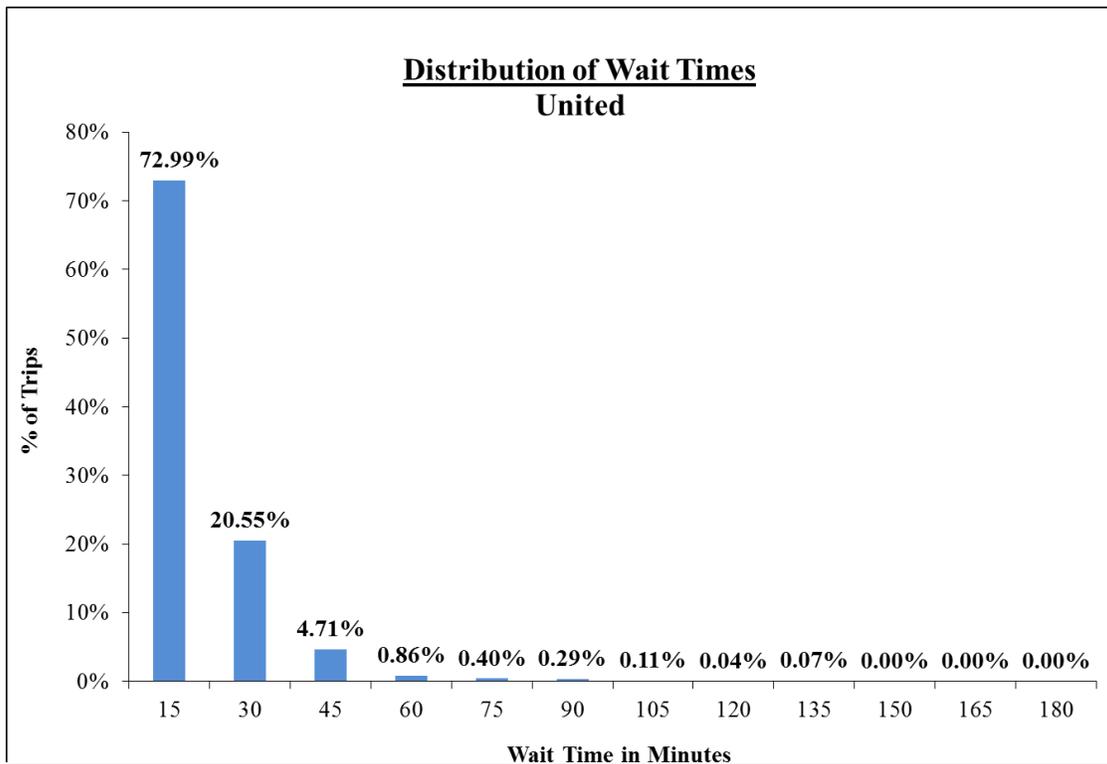
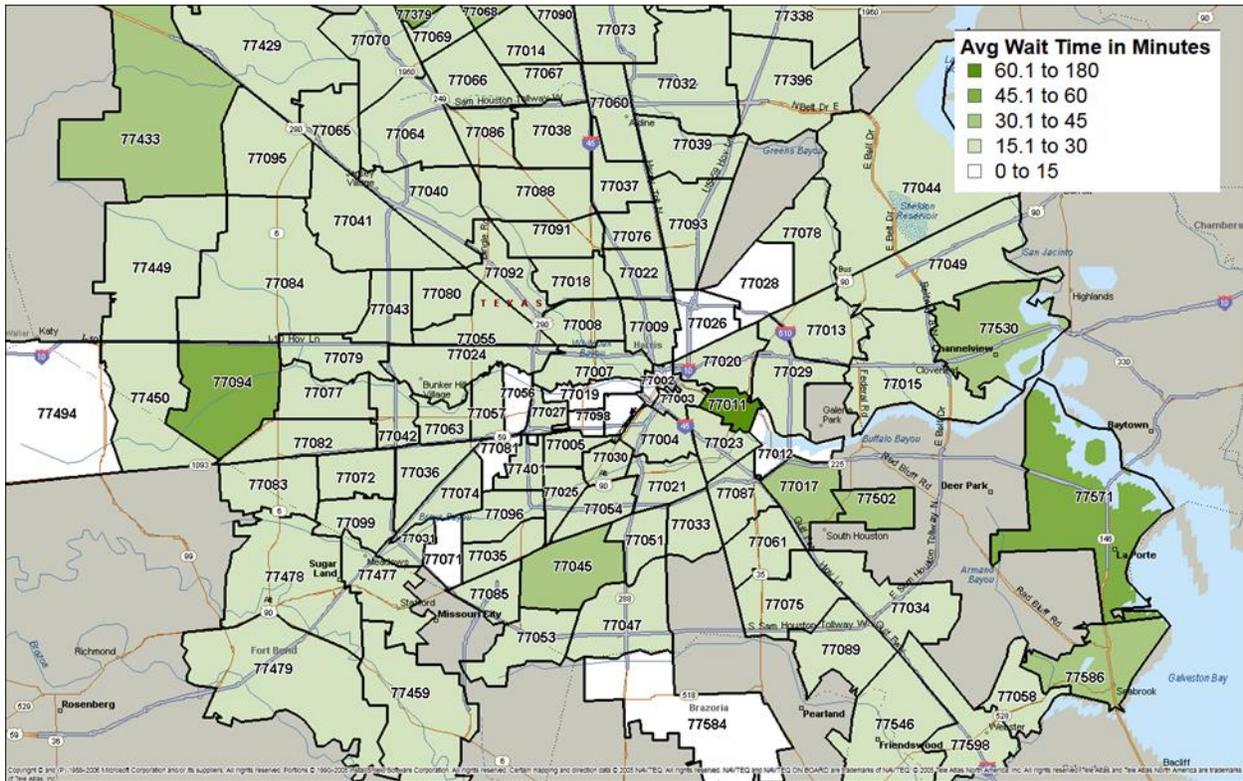


Figure 23

G. Average Wait Time



Estimated Driver Incomes

The ranges of the daily revenue per vehicle provide a snapshot of the usage of a vehicle and values its permit creates on a daily basis. The minimum/maximum meter recorded daily revenue is calculated by multiplying the daily average fare (\$20.11) by the minimum/maximum verified trips completed per day. Readers should note that this estimate is for one full service taxi company and its drivers, and it is an estimate using average figures. However, as will be explained, there is a wide range of what a dispatched taxi driver chooses to make daily. And, this will vary from day to day.

Another way to estimate the daily average fare is to take the average of the daily meter data excluding those of Saturdays in the same time period. The average fare without Saturday data is \$20.12, which is very close with the overall average with Saturdays data included. Thus, we are assuming a 6 day workweek for many drivers. The boundaries of the range of the daily trips completed, either dispatched or flagged, is derived from daily trip data of 428 consecutive days from September 4, 2012 to November 4, 2013.

...

As shown in Figure 24 and Figure 25, the daily meter revenues for dispatched trips range from \$92.46 to \$307.22. or an average of approximately \$200 per day. However, there is a large day-of-the-week impact to the revenue. Wednesdays and Fridays are the peak of the week.

On the other hand, flagged trips do not exhibit the same obvious peaks or revenue range, except for Wednesdays as shown in Figure 25. The daily revenues for flagged trips range from \$31.84 to \$163.08 or an average of \$97.00 per day.

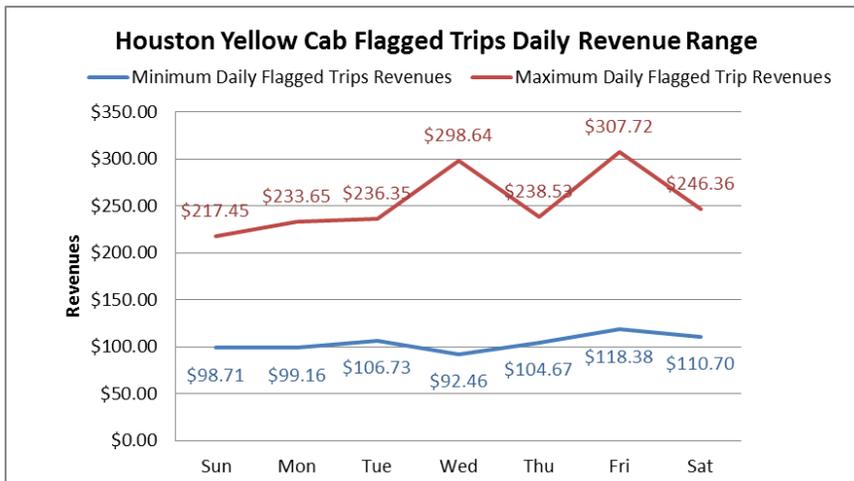


Figure 24

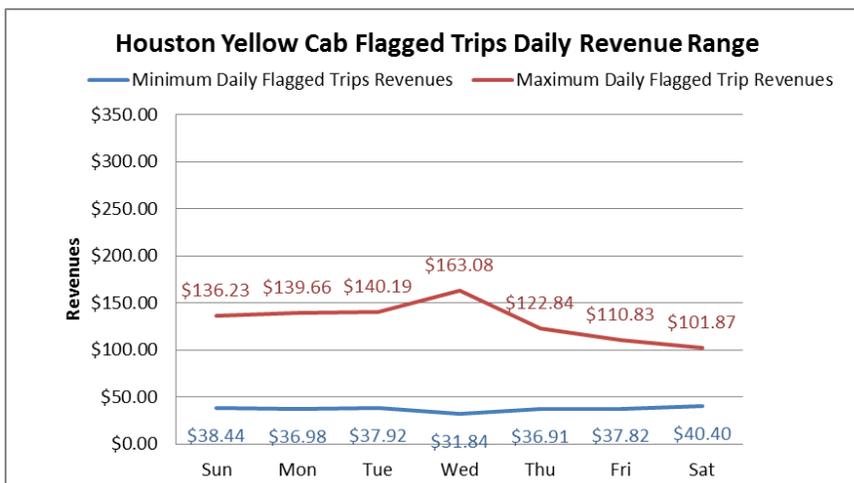


Figure 25

Another aspect of the values created by GHTC Cabs is the distribution of the revenue streams, in other words, how many cabs are generating a certain level of values on an average day. Figure 26 and 27 show the distribution of the daily revenue levels of Houston Yellow Cabs. The percentages are based on the Distribution of Average Daily Completed Dispatch and Flag Trips from the Houston Presentation. This group of figures (26 and 27) ignores the day-of-the-week effects and focus on the distribution of the revenue streams generated by the entire fleet. The interval for Figure 26 and 27 is \$40.22.

For dispatched trips, the revenue levels are much more evenly distributed than those of the flagged trips. As indicated by the charts below, the majority, about 61%, of the daily dispatched trips generate between \$80 and \$160 per day.

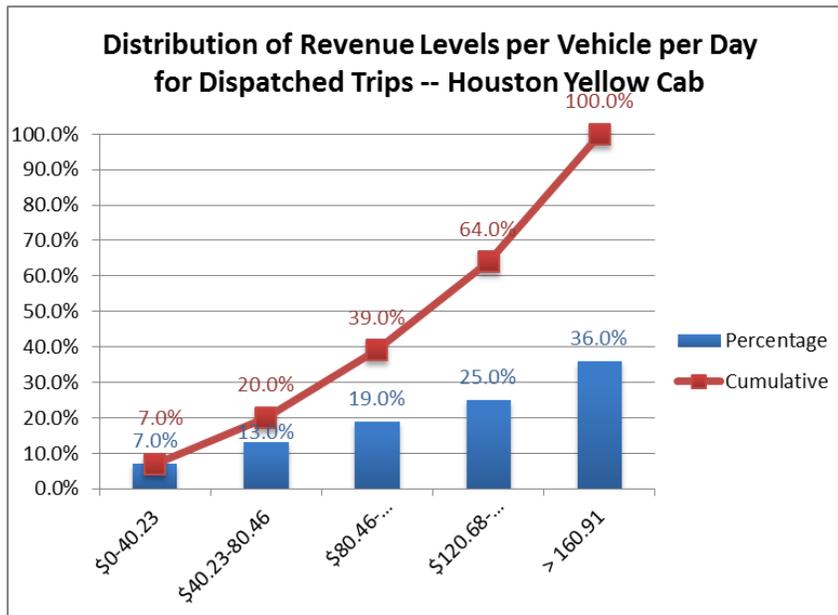


Figure 26

A driver makes about \$80 or under per day for flagged trips alone. The most concentrated revenue interval is between \$40 and \$80 for flagged trips.

In summary, these charts demonstrate the value of a Houston taxi permit when administered through a full service taxi company. Dispatched trips, which are a combination of prearranged times and calls for a cab as soon as possible, represent, on the average, between \$80 to \$310 dollars of revenue per taxi driver daily, or an average of \$200. Coupled with an average of approximately \$100 per day in flagged trips, the Houston Yellow driver collects

approximately \$300 per day in revenues from dispatched and flag trips. This sum does not include tips, cash revenue from the city’s Six in the City downtown zone, or any personal revenue that may have been provided from off meter trips. Together, these cash trips and tips could represent another 20% of revenue for the taxi driver.

Adding another 20% to the average of \$300 would represent a gross

income of \$360 per day. However, daily lease rates and gasoline at \$40 per day

would cost a driver between \$120 to \$147 per day. Thus, depending upon the type of car leased from GHTC, a driver working long hours could be expected to average \$210 to \$240 per day driving his cab.

Readers should note that the above characterization is “hypothetical” based on average cab revenue from dispatched and flag trips recorded by the modern taxi dispatch system utilized by Yellow Cab of Houton. While the data is real, there is really no such thing as the average taxi driver. Daily revenues of taxi drivers will vary greatly from lows on the above charts to highs depending upon the skill and knowledge of the taxi driver and his/her work efforts. Some of these drivers will work an eight hour day. Some will work intermittently over a 16-hour period, mixing on duty time with picking up their children from school or other personal activities. Some, may work mostly personals due to the return client base they have built up themselves and only fill in part of their day with dispatch trips. They all may pay the same lease rate but their incomes are vastly different.

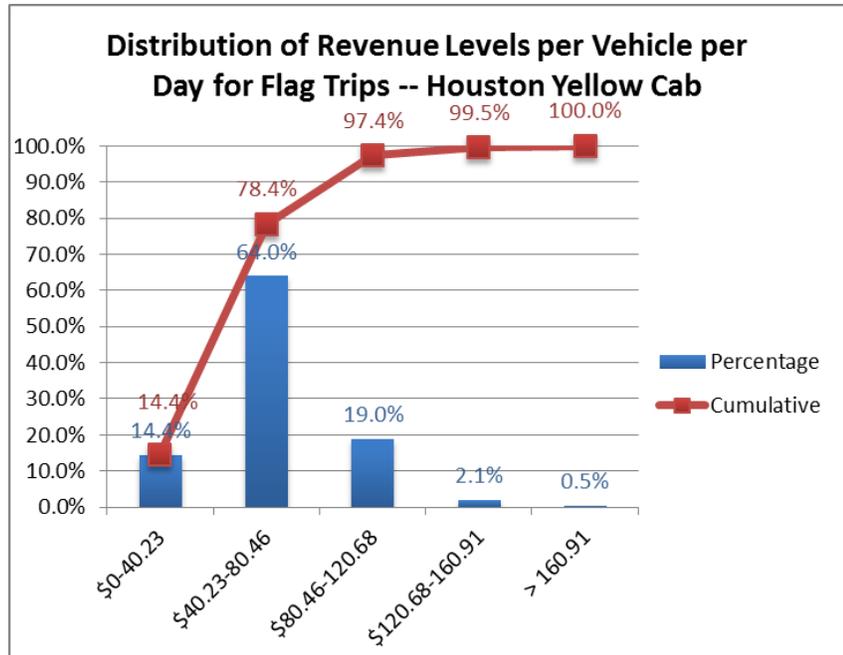


Figure 27

Houston Transportation Services

The second largest full service taxi company in Houston is Houston Transportation Services, (HTS) LLC which operates Lone Star with 158 taxis and Liberty Cab with 33 taxis.

The HTS facility is relatively new with modern technology for light repair of vehicles, dispatching, and office personnel. Unlike Houston Yellow Cab which has been able to develop and offer its own taxi mobile smartphone application, HTS has employed a third party taxi mobile application and technology company, Taxi Magic, to provide it with its mobile application and in-vehicle hardware to process credit cards. Taxi Magic works through the dispatch company of the taxi service. Such a combination of a 3rd party technology provider permits HTS to offer competing smartphone app technology for its users as well as all the traditional methods of obtaining their taxi services, i.e., telephone, internet, and walk-up hail. HTS can and does then offer its customers the ability to pay with credit cards

Data supplied by HTS was limited, but shown below is the productivity generated for its permitted drivers. As shown, most drivers are receiving between 2 to 3 trips per day from HTS dispatching

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Average Daily Completed Dispatch Trips

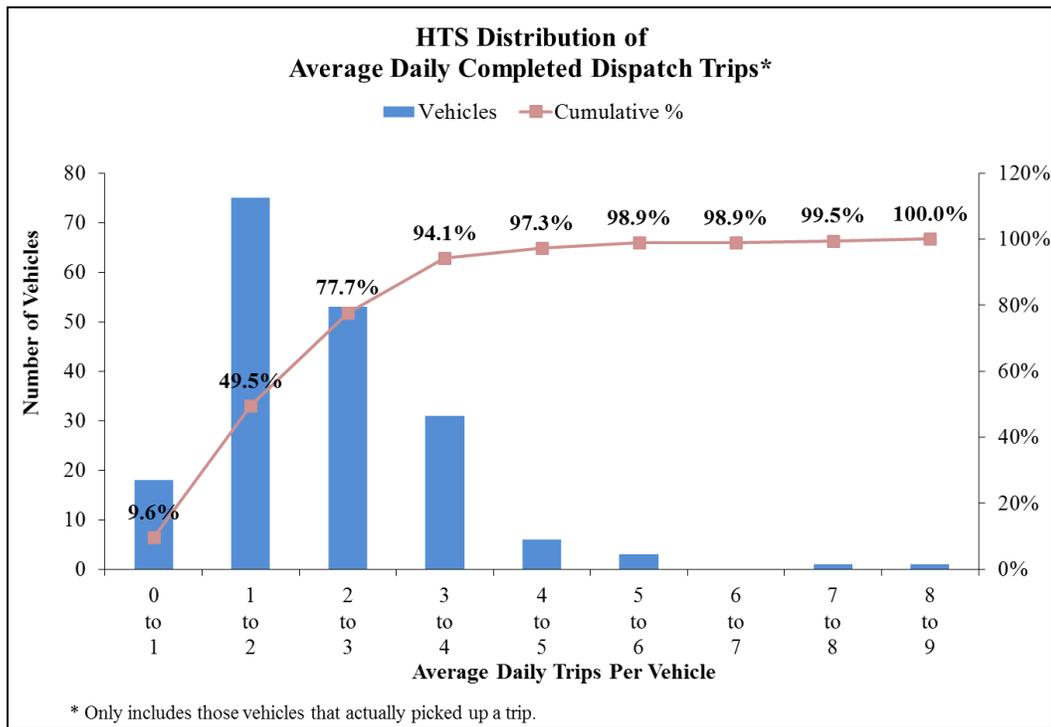


Figure 28

Interviews with Drivers & Owners of Smaller Houston Taxi Companies, Drivers, and Other Stakeholders

Interviews were held with various stakeholders within Houston concerning taxi operations. Specific attempts were made to provide any taxi cab permit holder and any Houston taxi driver to be heard as a part of the study process. Contained in **Appendix B** are letters of invitation from the City of Houston to attend one of the several public sessions held to gather input for this study. While there were specific times set aside for either drivers or permit owners, most of the sessions had both owners of permits, some of which were also driving, and drivers who owned their own taxis or leased them from a third party. Following is a summary of these discussions.

Smaller taxicab owners and drivers alike stated that there needs to be significantly more nightly inspection and enforcement of the taxicab ordinance in order to prevent gypsy taxis from operating in Houston. Further, that there should be significantly larger fines for violators. There was particular concern regarding sedan type limousines that were coming into the City during special events. They specifically pointed out that taxis no longer get the lucrative College Station trips – which now go to sedans or shuttles.

Both owners and drivers suggested that newer and some current taxi drivers needed additional training in English and just the basics of how to treat the customer. They felt the city was not doing enough to get these drivers off the streets and to use better screening of new drivers. Drivers also complained about rigorous enforcement by airport taxi inspectors for such things as paperwork and minor scratches on their cabs.

Drivers indicated that there were not enough cab stands in Houston – especially during peak event times. They suggested that cabs be included in the transportation planning process for major events and that cabs be included in exclusive bus lanes along with dedicated drop off and pick up areas. For example, it was suggested that the City establish taxi stands for every special event over 3,000 attendees. Finally, these owners and drivers felt they should be able to charge variable (more) or surge pricing for these special events.

For the most part, drivers were concerned that there was no place for them to go in the downtown area when not engaged with a fare. There are few places taxis are allowed to park and be available for a smartphone or traditional dispatch call.

...

Lease drivers were interested in some way to tie their lease rates to inflation so when fares were raised there was not an immediate hike in their lease rates which absorbed any increase in income they may have. Dispatch drivers and especially taxi permit holders that leased their permits, did not favor the regulation of lease rates by the City. However, taxi permit lease drivers that provided their own vehicle felt they were paying too much for their City permit when the fees they paid were considerably more than the permit holder paid to the City for the annual permit renewal.

While the lease rate paid by lease drivers was dependent upon a number of variables, such as the amount of trips generated by the permit holder (dispatching and personal business) and/or the personal relationship the driver had with the permit holder, the lease rate for the smaller non-dispatching taxi companies was anywhere from \$175 to \$250 per week or from \$700 to \$1,000 per month. Given the fact that the annual permit renewal fee is \$528 to the City of Houston, these drivers felt they were paying a great deal for little value. These same drivers were those most interested in receiving their own permit (medallion) and/or creating their own taxi company co-op of drivers who would lease their permits directly from the City.

Small taxi cab owners, however, felt that they were creating value in their taxi permit by dealing with all the paperwork created in renewing the permit, leasing it to and managing the driver who worked under that permit. In addition, these owners felt they had either purchased the permit or had it as a result of driving for some time and thus treated it as a rentable property, the same as one would rent a house or apartment.

Owners and drivers were both concerned about the dangers of driving a taxi in Houston. Several mentioned a high number of taxi driver robberies and deaths as a result of someone wanting the few dollars that a typical driver carries. Due to this, these drivers related that there were several no-go taxi zones within the City that most taxi drivers would not provide service either from or to. All suggested better safety measures to protect taxi drivers should be taken.

Drivers also were concerned that there is a very awkward process for taxis picking up prearranged fares at Bush Intercontinental Airport. They indicated that the process was taking too much time to be called up while town car drivers could actually go inside the airport. Thus, these drivers felt there was not enough scrutiny of town car drivers at the airport who were allegedly soliciting at the airport.

There was also concern by these airport drivers that the current fares from both airports were not enough – that they should be raised and that they should be able to charge for extra passengers and extra bags.

HOUSTON TAXI SERVICE QUESTIONNAIRE

The following is a summary of the responses and ratings of local Houston taxi operations. Input to their study was obtained from a wide audience of taxicab users in Houston. These users were broken into two groups – frequent (institutional) users and individual users.

Institutional Users

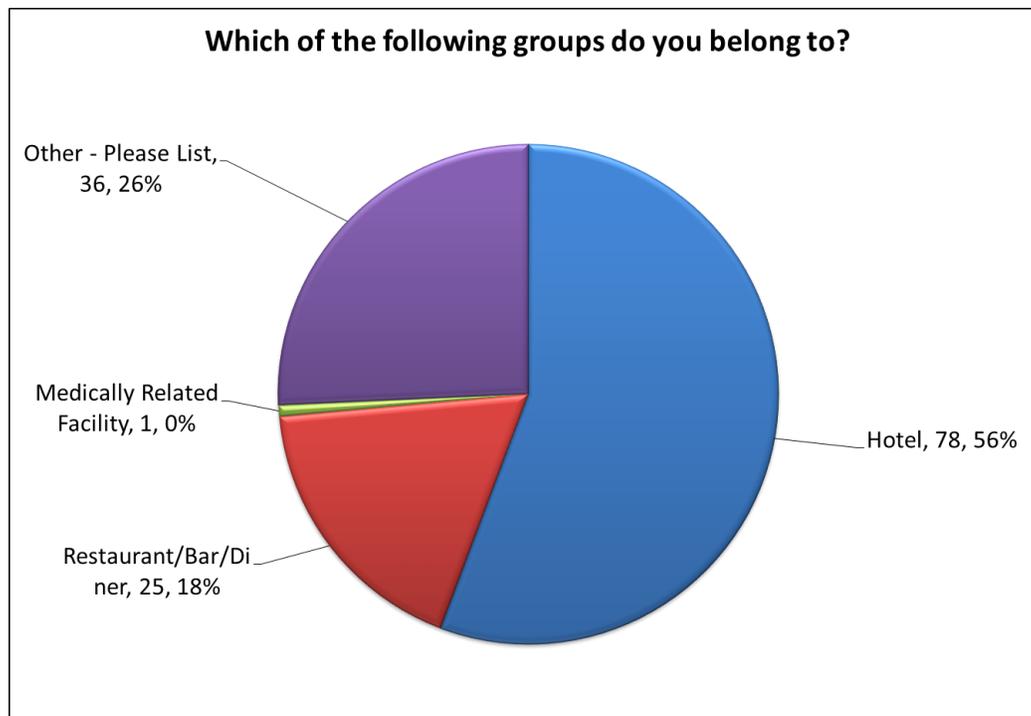


Figure 29

As shown above, there were 140 individuals that completed this survey. Most, 79, were hotel personnel but 25 restaurants, and 1 medical facility also responded with 36 others indicating “other”.

When asked which taxi company they call, Yellow Cab was indicated 93% of the time. This could be expected, given that Yellow Cab has 1,101 taxi permits in Houston. However, GHTC’s other taxi brands of United, and Fiesta were also mentioned at 15.8% and 8.6%, respectively. HTS brands, Lone Star and Liberty were mentioned 21.6% and 9.4%, respectively.

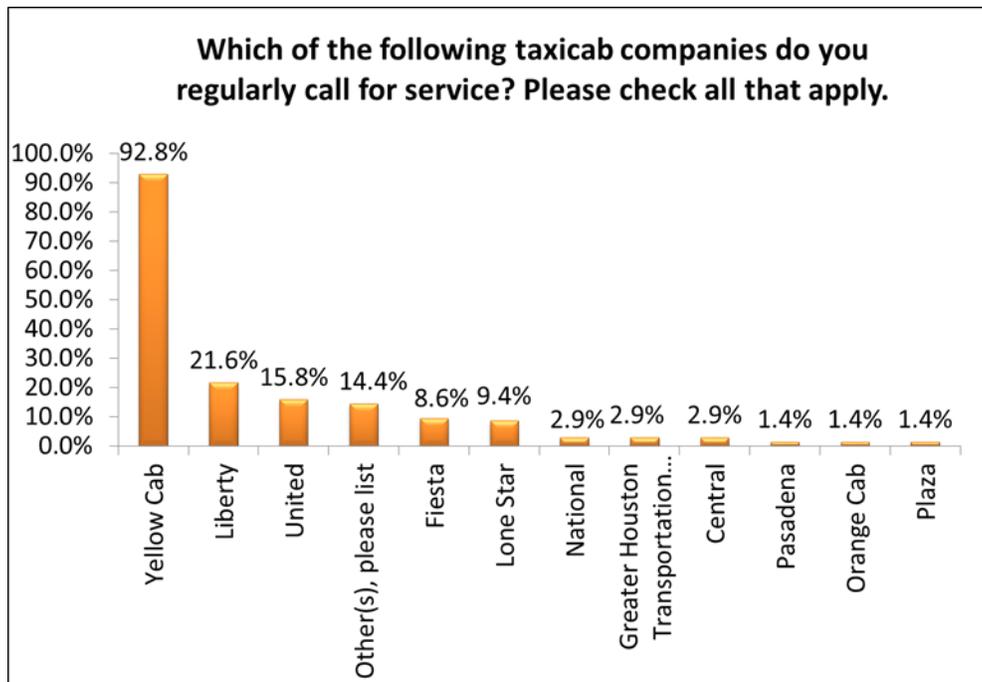


Figure 31

The reasons one cab company was chosen over another are shown below. It is obvious that institutional users’ primary concerns are in promptness of service and quality of that service.

What are your main reasons for preferring one company over another?

Reason	Response Count
Prompt Response / On Time service	20
Better Overall Service	14
Known company / Familiarity	14
Availability / Large Company	13
Reliability & Dependability	11
Online presence/App	10
No Particular Reason / Habit	9
Clean, Courteous & Efficient Driver	8
Cleanliness of cabs	7
Convenience	7
No other or not many options due to location or mandatory restrictions	6
Not aware of others	5
Accountability	5
Knowledge of area	4
Easy to contact/Good Dispatch system	4
Reputation of the company	4
No preference as all are sub par	3
Personal Relationship/Past experience	3
Price/cost	2

Figure 30

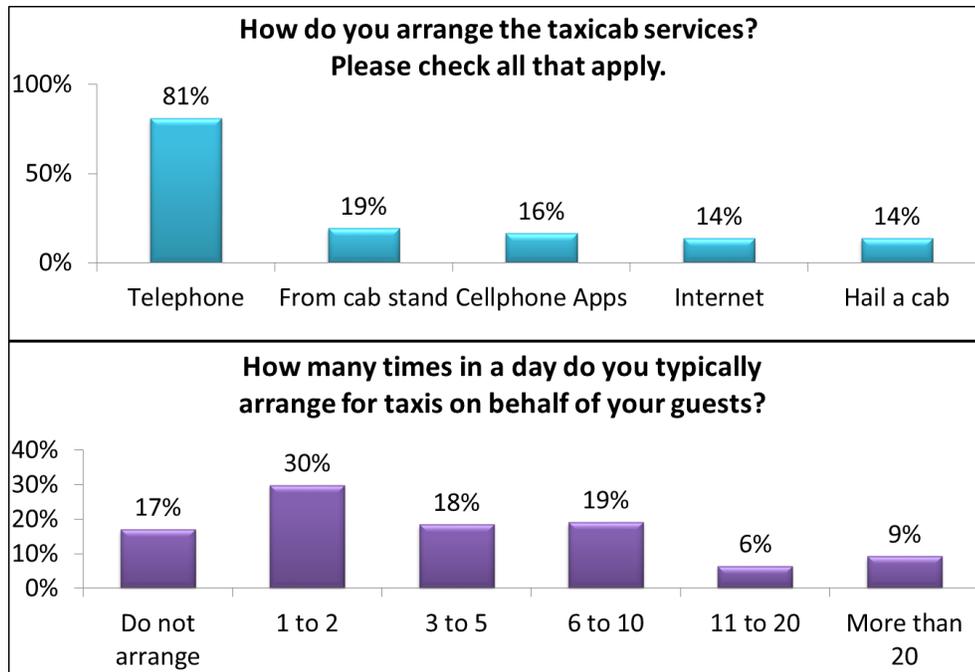


Figure 32

While the telephone is still by far the most common way of requesting a taxi, as shown by the responses below, there is an increasing trend to use smart phone apps for hailing a taxicab.

As could be expected, the most common way for a hotel, restaurant, doctor’s office, or others to call a cab is by telephone (81%) or by calling them from a cab stand that may be at their establishment. However, a growing number of personnel in these establishments are using new smartphone apps as shown below. For example, Hail a Cab, the local digital dispatch taxi application which was just introduced, is now utilized by 14% of these frequent cab callers.

While it is common practice for larger hotels and restaurants in many cities to “sell their doors” to a single taxi company, such is not the case in Houston whereby 97% of the respondents indicated they had no special arrangements with any one taxi company. For those who do have a special arrangement, Yellow Cab is the most frequent one mentioned.

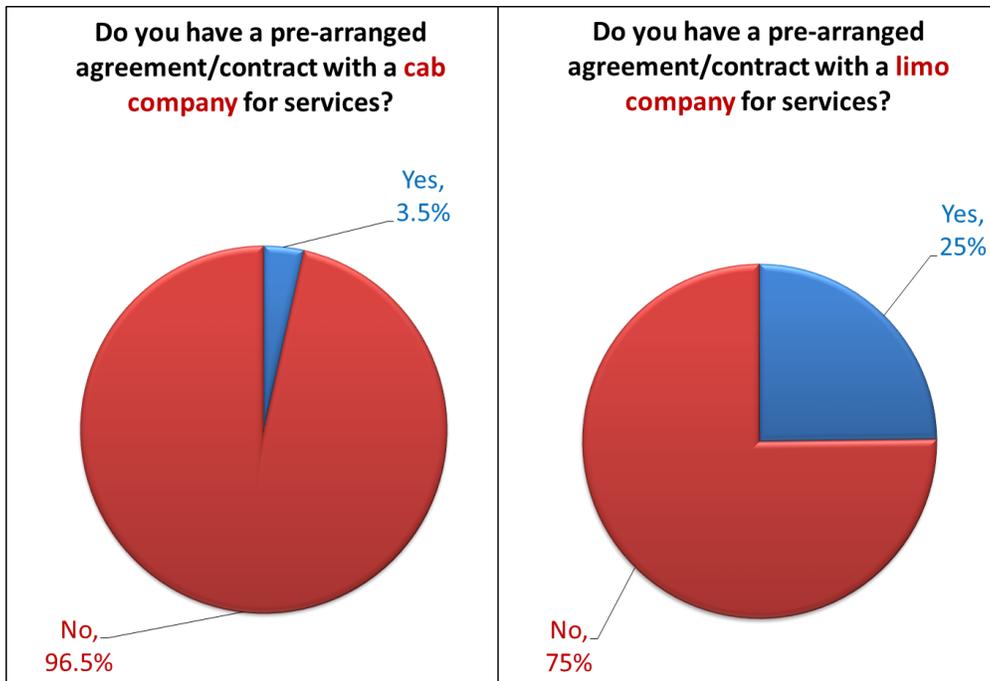


Figure 33

Do you have a pre-arranged agreement/contract with a **cab company for services?**

Yes/No	If yes, which company?
Yes	Independent Yellow cab drivers on file
Yes	It is agreed, but not contracted, that Yellow Cab authority will be on site during major event operations.
Yes	yellow cab
Yes	Yellow Cab
Yes	City Town Car
No	no agreement, we only have one driver in the area that schedules trips
No	I do not like dealing with cab companies.
No	As of lately, Yellow Cab is not accepting calls from us to schedule cabs to the airport for our guests the night prior to departure. This is becoming an inconvenience as the guests are concerned they won't have transportation in the morning to the airport. Yellow Cab is stating we have a cab stand and we do not. I've tried calling for assistance, but have not received any help.

Figure 34

On the other hand, numerous establishments indicated having a pre-arrangement of contract with a limousine company as shown below. And, while Regent Limousine was mentioned more than any other company, there does not appear to be any one limousine company that dominates the market.

Do you have a pre-arranged agreement/contract with a limo company for services?

Yes/No	If yes, which company?	Response Count
Yes	Regent	4
Yes	Transportation Services of Houston	2
Yes	Excellence Limo Houston	2
Yes	Aggie Limousine	2
Yes	R&R Transportation	1
Yes	RR company	1
Yes	Elite	1
Yes	Mohsin-independent contractor	1
Yes	On Time Transportation	1
Yes	only to Airports	1
Yes	R & G Limousine and Houston Town Car & Limousine Service	1
Yes	Town Car services	1
Yes	information not available	1
Yes	Junior Limo	1
Yes	Merlos Limousines And Charters	1
Yes	AAdvance Transportation	1
Yes	Juan M Limousine Co. Airport, Hotels, Tours. No written contract. We just know them and allow them to be on property readily available to transport our guests.	1
Yes	Two Independents	1
Yes	Sam's	1
Yes	Karr	1
Yes	Not sure on company as we have 2 drivers that have been very reliable.	1
No	Limo service is best for my clients, but the cost to schedule them in Houston is outrageous. The city leaders are doing a disservice to the community and business travelers.	1

Figure 35

Wait time is an important variable in choosing a taxi or any on-demand form of ground transportation. One measure of perceived quality of service is the time one perceives it takes for a taxi to arrive after being called, and the time you consider to be “reasonable” based on your experience with the service. As shown, 89% of these respondents feel that a cab should arrive within 15 minutes or less. On the other scale however, these respondents indicate that only 51% of the time does a cab arrive within 15 minutes of being called. Readers should note that this is perceived time and as shown from actual taxi dispatch data, 74.2 % of the time cabs from the largest cab company arrive within 15 minutes.

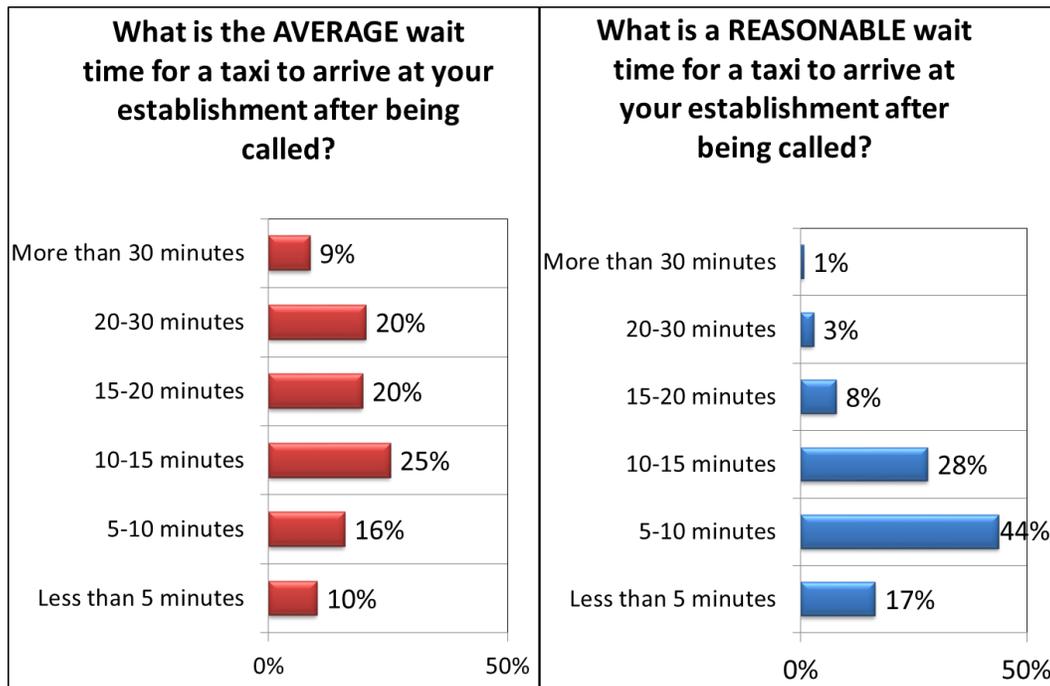


Figure 36

99% of the respondents felt their guests should be able to use credit cards for taxi services. Clearly, the acceptance of credit cards has to be as prevalent in Houston taxicabs as it would be in any retail store.

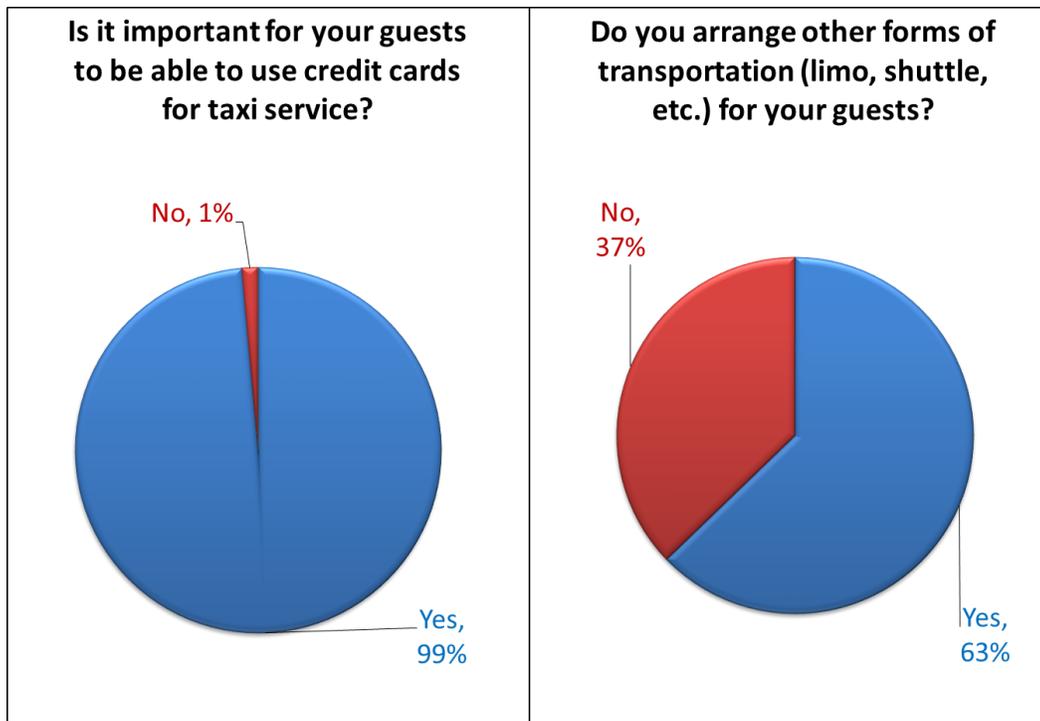


Figure 37

When asked about other forms of ground transportation, 63% of the respondents indicated they also arrange other forms of transportation such as limos and shuttles. As shown below the most frequently named company was that of Super Shuttle, but there would appear to be many small sedan and limousine companies operating in the City of Houston.

Do you arrange other forms of transportation (limo, shuttle, etc.) for your guests?

If yes, which companies do you use?			
Response	Count	Response	Count
Various Limo / Town car services	15	Houston Global Solutions	1
Supper Shuttle	14	Houston Limo	1
Private Shuttles, cars, buses	8	Houston Town Car & Limousine Service	1
Guest choice	6	Houston VIP Limo	1
Merlo's Limousines and Charters	5	Junior Limo	1
Independent contractors	3	Karr Limousine	1
R & R Valet	2	Katy VIP Limousine Service	1
Executive limo company	2	Luxor Limousine Service	1
Regent Limo	2	On time transportation	1
Transportation Services of houston	2	R & G Limousine	1
R&R Transportation	2	Elite	1
A-1 Town Car	1	RCL Limo Service	1
Dashen Cab	1	Small companies	1
H.P.S. Services, Inc	1	Private Drivers	1
How is the service arranged?			
Response	Count	Response	Count
Phone Call	20	I refer business to the companies that rent vehicles from me.	1
Internet	6	with employee when they have waited way too long	1
Email	2	depends on the form of transportation requested- typically arrange	1
Text	1	through valet or a dmc, depending on the size of the group	

Figure 38



Figure 39

Taxi services have a number of attributes that are important to users. Frequent user respondents were asked to rate these attributes on a scale of 1 to 5 with 1 being very poor and 5 being very good. As might be expected, these users have very high customer standards and clearly they are not long on praise for the taxi industry and its drivers. At best, they feel “OK” about their willingness to pick up, acceptance of credit cards, answering their phones, and helping with luggage. However, on all other attributes, they rated Houston’s taxicab service as poor with their overall assessment of Houston’s taxi service as “poor”.

Comparing these results with those from other cities shows that Houston frequent users view their taxi services very critically and desire improvements in vehicle appearances and driver behavior. Even with taxicab service times being among the least in the country, the frequent taxicab users definitely want improvement in vehicle appearance and driver attitudes toward their customers.

Service	Dallas	Austin	Miami	San Antonio	Winnipeg	Salt Lake	Houston
Promptness	3.5	3.4	3.5	4.2	2.8	3.6	3.1
Answer Phone	3.6	2.8	3.9	4.4	2.9	3.7	3.0
Courtesy	3.0	3.2	3.4	4.0	3.3	3.4	2.7
Appear/Driver	2.7	2.8	3.0	3.7	3.4	3.0	2.7
Willingness	3.9	3.9	3.5	4.2	3.2	4.2	2.6
Handling	2.7	2.4	2.9	3.2	2.7	3.5	2.3
Appear/Vehicle	3.3	3.7	3.3	4.4	4.0	3.4	3.0
Credit Cards	3.3	3.9	3.0	4.4	3.2	3.7	3.2
Fares/Costs	3.1	3.4	NA	4.0	3.5	NA	3.1

Figure 40

City regulators were also interested to learn how these frequent users viewed Houston’s taxicab service from comments derived from the clients or patients. Thus, the questions of “do you find the different color schemes of the Houston taxi industry to be confusing?” and “do you know whom to call if you have a complaint” were asked in our survey. As shown below, approximately 40% responded that they found the different color schemes to be confusing while 71% indicated they did not know who to call when they have a problem.

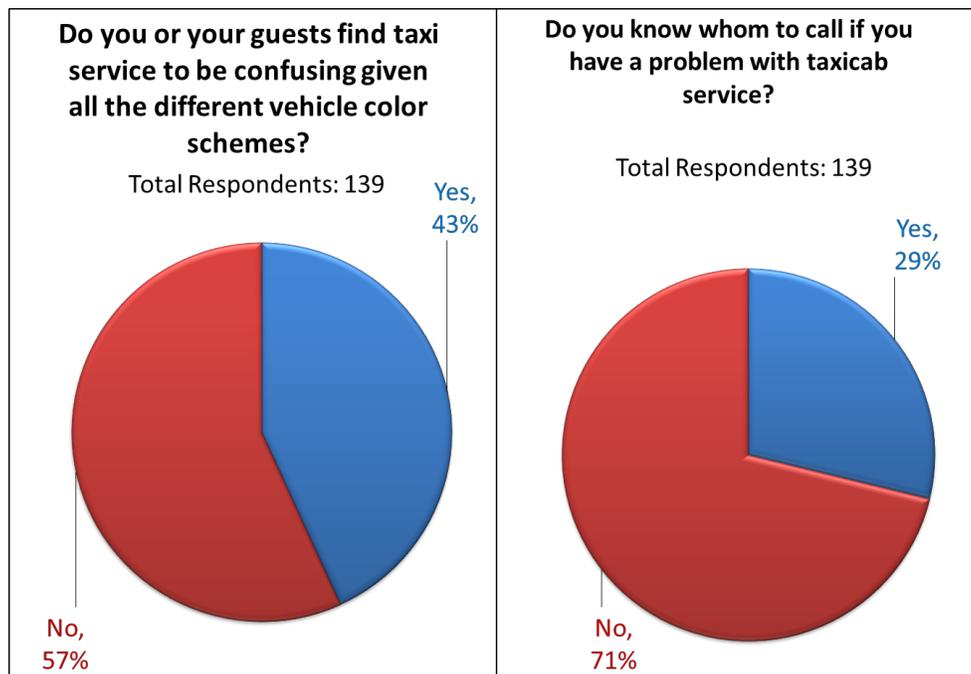


Figure 41

This confusion is depicted more clearly by the numerous comments made with respect to

the large number of “off brand” cabs that show up to pick up customers that have booked a ride with what they thought was another cab company. Visitors to the city also appear to view the large variety of cab schemes and colors as evidence that the city permits “gypsy cabs”.

Do you or your guests find taxi service to be confusing given all the different vehicle color scheme?

If yes, please explain:	
They cannot tell who is private cab vs. Public, rates may differ as well.	They are always asking what the difference is between them.
Regular guests seem to prefer yellow cabs	They seem to charge different rates at times.
Yellowcabs are not always yellow	Color schemes, payment options or lack of
Yes, sometimes multiple and different cabs appear, confusing the guests, as well as the hotel employees.	I have seen guests come out to look at a car and not even sure it is cab. I have been confused also.
Cabs pass our location constantly in various colors so our guests that are from other states or countries do not understand why there are so many different looking cabs.	Yes, this is a huge thing for our guest. It's very hard when there is a different cab with a different name however works under an umbrella of another cab company.
We will tell the guest that we re calling out a specific company and to look for a color but what arrives instead is a different color.	The driver should give all info. On receipt to the guest,(name of the co.) (Name of the driver ,also the cab #)
Due to the different color	There are too many "off branded" cab companies.
Out of town clients often ask me if we have "gypsy cabs" due to the multitude of color schemes.	Some cabs pull up demanding that they were here first and do not look like cabs. We call the police at times.
Our guests have a hard time finding a taxi at the airport that will bring them to the hotel.	The different colors, and types of cars get really confusing for guests.
The taxi service in Houston is terrible and unreliable. It is rare for drivers to know where any destinations are even with GPS	The same dispatch calls out taxis of various companies. So it is confusing to guests when yellow cab is called and fiesta or united or liberty shows up.
Too many choices which causes a tremendous difference in quality and offerings to guests	For the guest, we tell them we are calling yellow cab and then a variety of different cabs pull up.
Sometimes, when we book yellow cab, a blue cab or a black cab come through and the guests are not looking for that particular design so both guests and cab drivers are waiting for no real reason.	Too many different companies, mostly individually owned and no one to hold accountable, its difficult to contact a unit after delivering the passenger and an item is left behind in the unit
At times a guest would say they forgot their belongings in a yellow cab and in turn it wouldn't be yellow cab company but rather an orange can that looked yellow. In this aspect it is hard to retrieve lost items when one can't pin point which company they might of left their things in	

Figure 42

Do you know whom to call if you have a problem with taxicab service?

Yes/No	If yes, whom do you call?	Response Count
Yes	Customer service / Representative	10
Yes	Company Manager/Management/Supervisor	9
Yes	City of Houston / Taxi Inspector	5
Yes	Dispatch	5
Yes	Taxicab Bureau	3
Yes	Write cab # and company phone # when you get in cab - usually posted	1
Yes	CVB and hotel association. We also have numbers to all the companies	1
Yes	We will call information, if we don't have the cab company's phone number to report issues or concerns.	1
Yes	ARA usually, have had to contact Houston police department with more serious issues	1
No	I would like feed back on that Bw14753@aol.com	1
No	Does it do any good? this year coming back from Rodeo the cab driver went off called my fiancé a Bitch threaten to beat us up all because what I said nicely you could go down Travis and Wham I know how to get there you just want to show off in front of your Bitch, what's your name sir? A - Going to Kick your Ass all the way my valet drivers had to stop him from getting out. I called not one call back - Nothing not one thing I got his cab number. Nothing	1
No	I would certainly know who to call? When there is an issue with Yellow Cab it usually triggers a few other issues that I would like to share with some sort of management.	1

Figure 43

Respondents were also asked to identify where in the City of Houston they were located. As shown, there was a good representation of all areas of downtown, suburbs, and the airports.

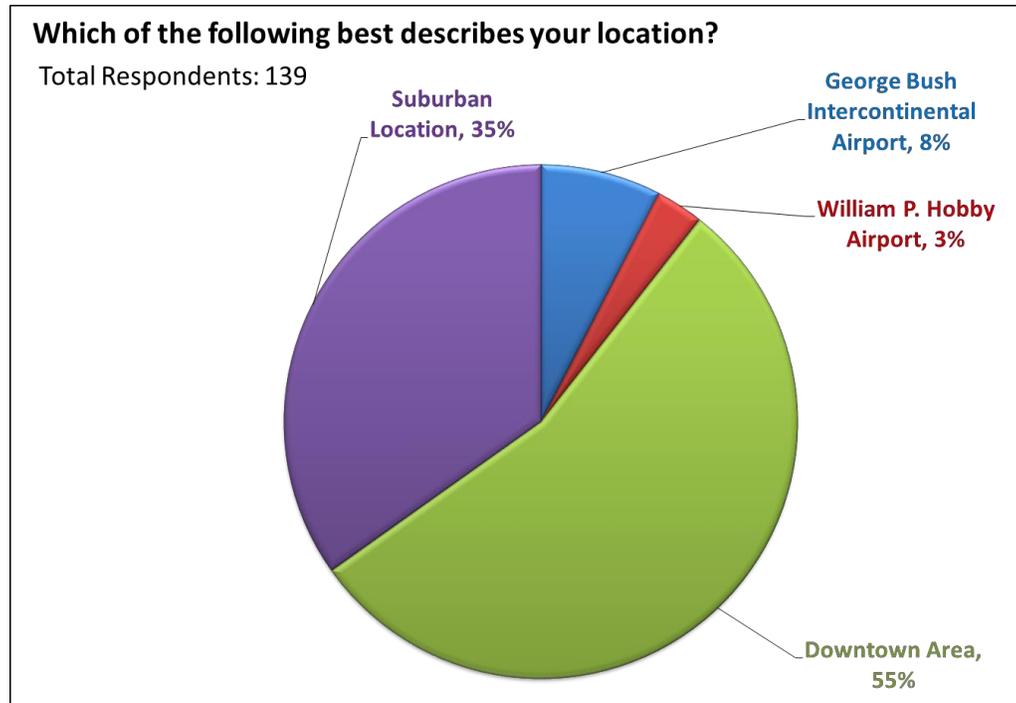


Figure 44

Summary questions were asked of the frequent users regarding what they felt was needed to improve Houston's taxi service to their clients and what overall would they suggest. As indicated, the most frequent suggestions come in the form of improving driver behavior and knowledge and overcharging. Other suggestions regarded appearances of both vehicles and drivers.

The most interesting observation that can be taken from these suggested improvements is that none of them are difficult or expensive to do, but WILL require substantial cooperation and buy-in from the industry.. Better training of drivers, elimination of all the different taxi colors and confusing dispatch of these off brand taxis, driver dress in the way of a required uniform dress of taxi company drivers, etc.,

User technology, in the forms of mobile apps that both major Houston taxi companies are currently using – that should be implemented across all taxicab companies – could assist in regulatory feedback about which drivers needed to be retrained or barred from renewing their

driver's permit. Such actions are relatively inexpensive and would greatly improve the image and quality of taxi services offered to visitors and residents alike.

What should Houston do to make the taxicab services better? Please list any additional comments you would like to make regarding Houston Taxicab services.

Complaints	Response Count
Rude, Unreliable service - Driver / Operator	9
Untidy Cab / Cab Driver Appearance	8
No Knowledge of area	7
Unprofessional conduct by Drivers	6
Long waiting period	4
Over Charge	3
Irresponsible driving	3
Do not accept Credit Card	3
Bad Air conditioning	3
Unsafe/Angry behavior	3
Driver / Taxi company Accountability	3
Take longer routes for higher fare	3
Expensive fares	2

Figure 45

What should Houston do to make the taxicab services better? Please list any additional comments you would like to make regarding Houston Taxicab services.

If yes, which companies do you use?			
Response	Count	Response	Count
Provide customer service training	13	Communication Skills training/test	5
Dress Code/Uniform/Better & Cleaner dressing for drivers	11	Enforce taxi service laws/Conduct inspections	6
"Knowledge of routes/area" test/training	10	Train drivers as Informal Tourist Guides	4
Accept guests irrespective of distance or destination	10	Penalize bad behavior (refuse fare, etc..)	4
Make more cabs/taxis available	10	Better complaint handling	3
Ensure acceptance of Credit Cards	9	Prompt Service / Decrease waiting time	4
Ensure Clean Cabs & Drivers	7	Provide ETA & Cab No. Info (Operators)	2
Incorporate technology e.g. Uber, Hailo Apps, GPS	8	One point of contact for all companies	2
Implement Flat Rates / Zone Fares	6	Defensive driving	1
Encourage Courteous & Professional Drivers	6	Bring back United Cab	1
More Regulation for driver/operator behavior	8	Improve Hail'A' Cab App	1
Taxi School/training	6	Reduce limo rates	1

Figure 46

SECRET SHOPPER REPORTS

In order to augment data from on street and on-line surveys, individual taxi company data analysis, and taxi dispatch information, mystery shoppers were employed to randomly call Houston taxi lines to request a cab, determine the time required for the cab to arrive, take a trip, and report on the quality of their taxi experience. These mystery shoppers were engaged to take 30 trips during August and September of 2013. Reported in **Appendix C** are complete data files from their experiences, average ratings, and trip write-ups.

Mystery shoppers are useful for gathering unbiased opinions as to what customers of local taxi services experience in a normal day when using these services. They are not typically generalizable to the entire population unless a clear and obvious pattern is evidenced by the majority of the mystery shopper reports. However, the written descriptions of services received is often quite revealing to city officials and company owners.

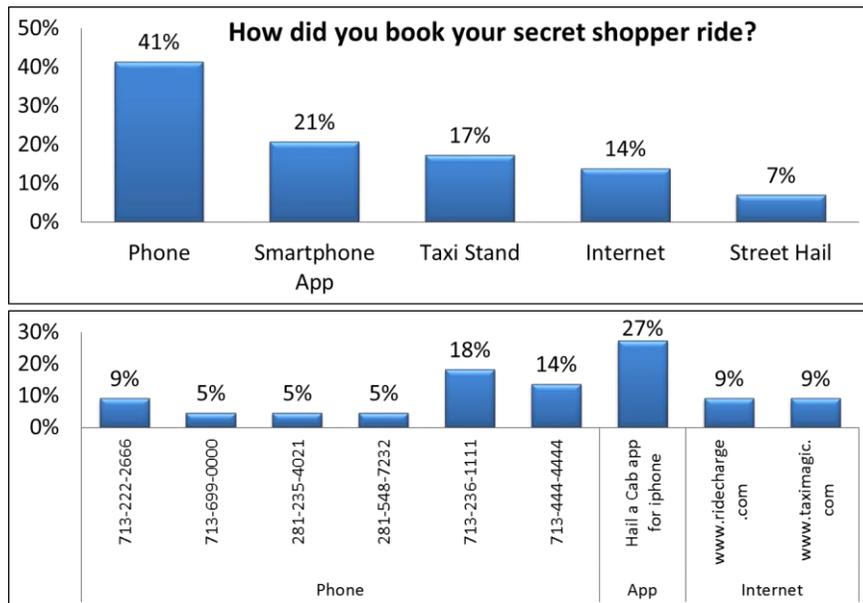
As shown by this data, mystery shoppers experienced no difficulty in using Houston's telephone dispatch services to obtain taxi services. Most of their calls were answered promptly and, for the most part, pleasantly.

The mystery shoppers were instructed not to take all trips out of the central business district, or any one area. Thus, the summary data below also reflects observances of individuals in outlying and, in some cases, low density areas – but within the service area of Houston, Texas. A Houston area map indicates where these secret shopping were taken. Also shown are when these observations were taken, whether at peak day and evening (bar closing) hours, as well as how the secret shopper trip was originated.



Figure 48

Given the large segment of the Houston taxi market serviced by Houston Yellow Cab, approximately 45% of all the secret shopper trips were taken with Houston Yellow whether arranged by phone call, smartphone app dispatch, airport stand, or other cab stand. Of the trips originated by phone (22), the vast majority of these phone calls were answered within one minute



Total Respondents: 29

Figure 47

or less with only 27% being answered in 2 or more minutes. Such results are very good within the taxi industry.

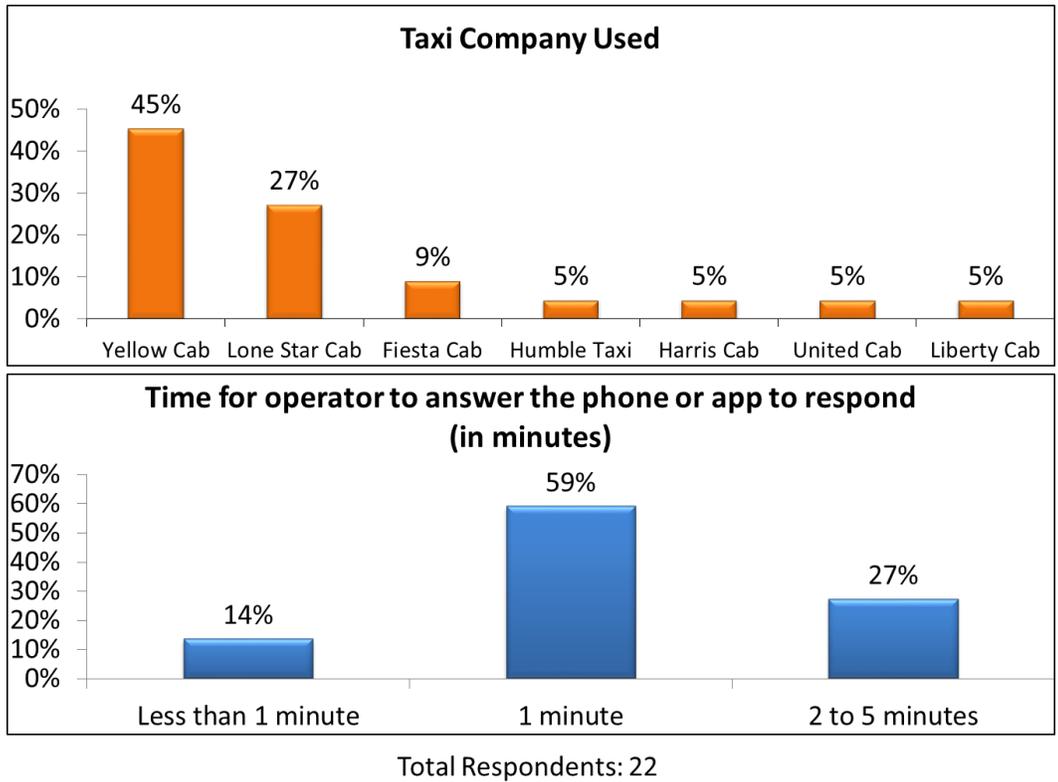


Figure 49

The time it takes for a taxi to arrive once it is called is an important service measure of the taxi industry. As indicated below, 90% of the time, a called taxi was estimated by their dispatch to arrive within 20 minutes or less. Given that these trips were a combination of both city center and suburbs, this would be considered a very good response rate from the dispatched cab fleet in Houston. Even more impressive was the fact that when this was measured against the actual time it took for the called taxi to arrive, 81% of the time it arrived in 15 minutes or less.

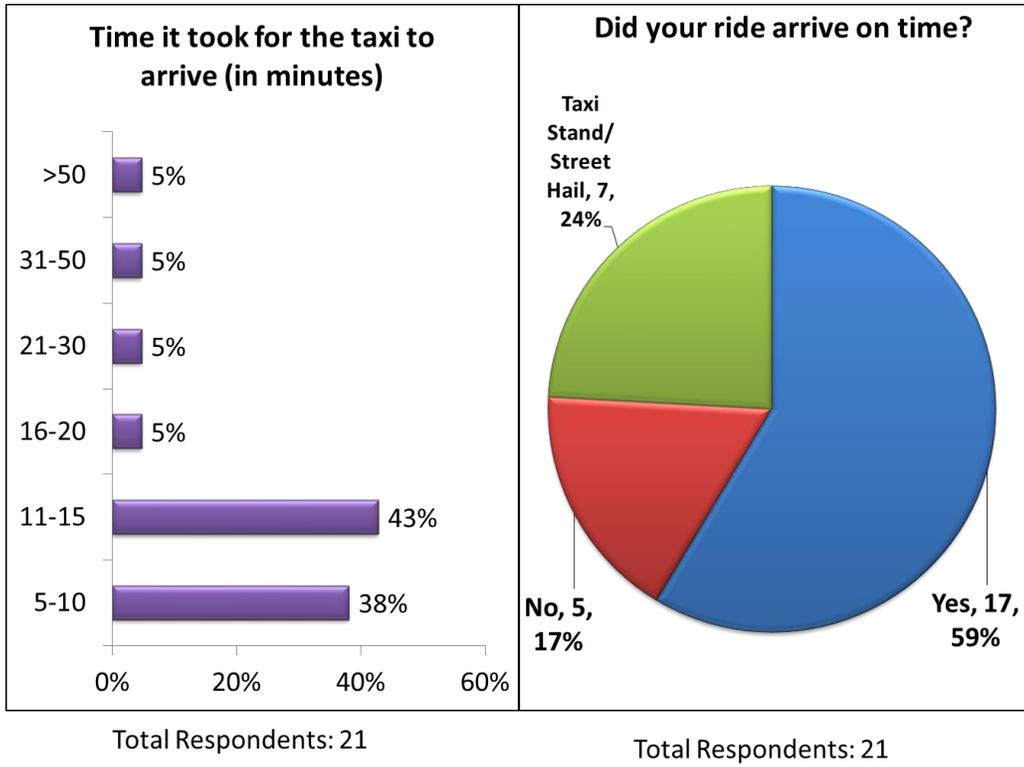


Figure 50

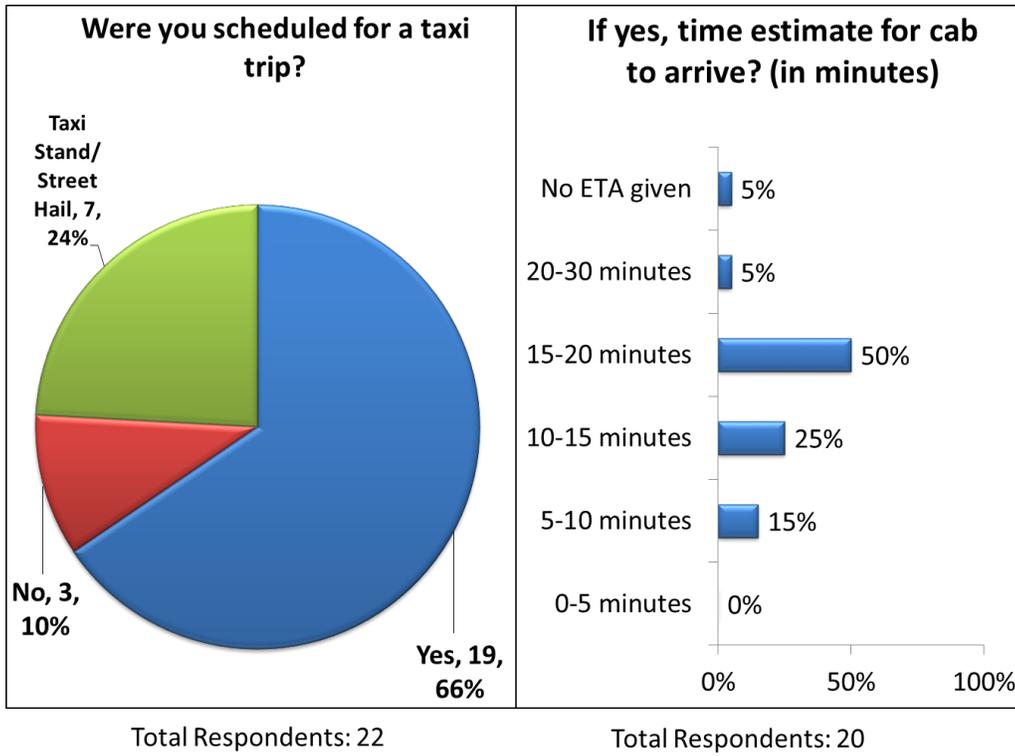


Figure 51

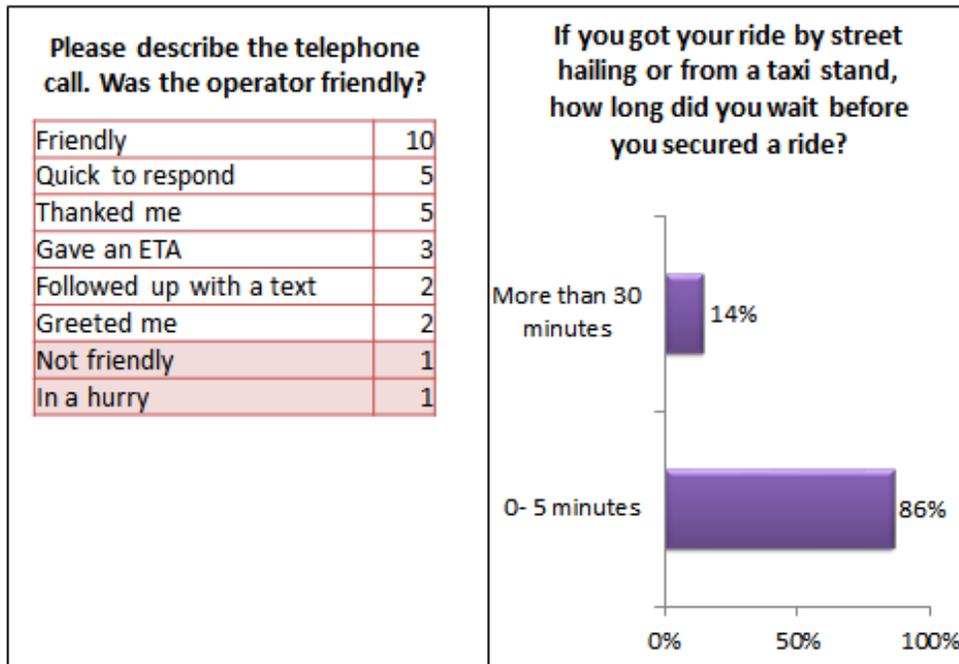


Figure 52

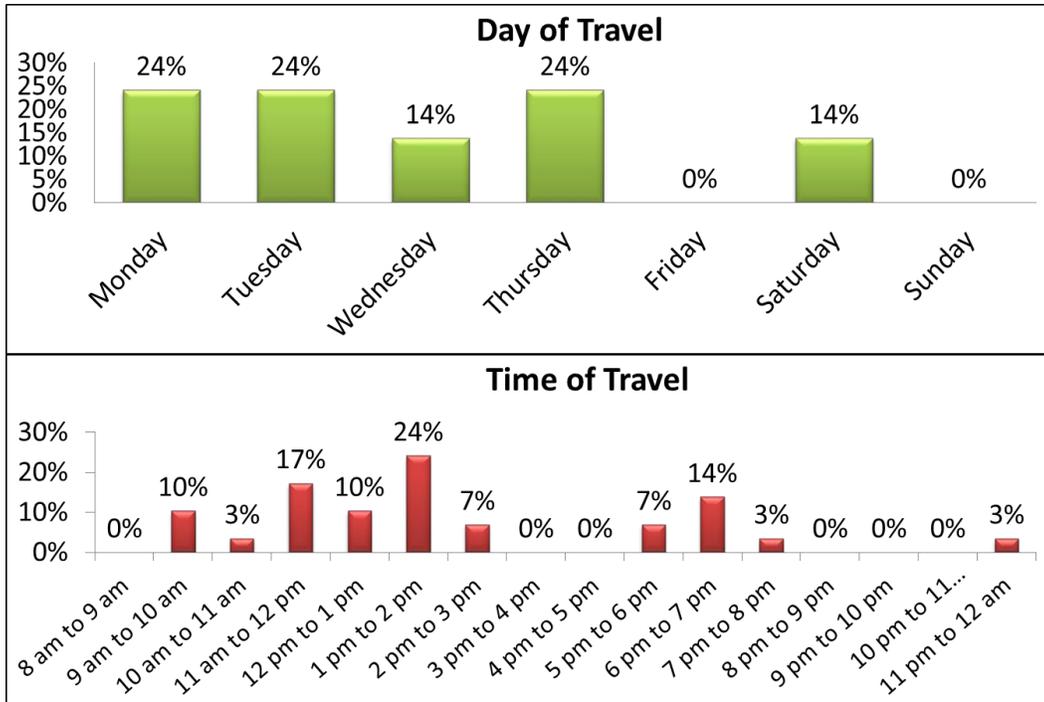
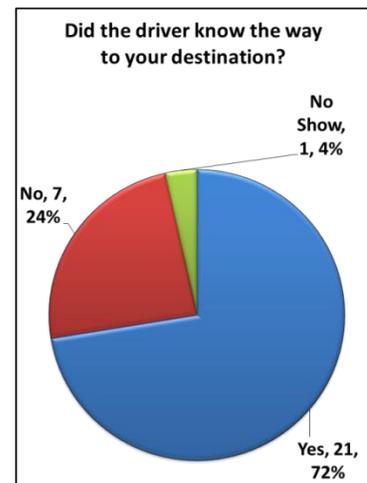


Figure 54 Total Respondents: 29

In other areas, such as dispatcher friendliness, which is highly company specific, the industry as a whole did well with only two reports of a dispatcher not being friendly or seemingly in a hurry. Wait times at area cab stands appeared to be minimal but there were occasions where the wait was 30 minutes or longer.

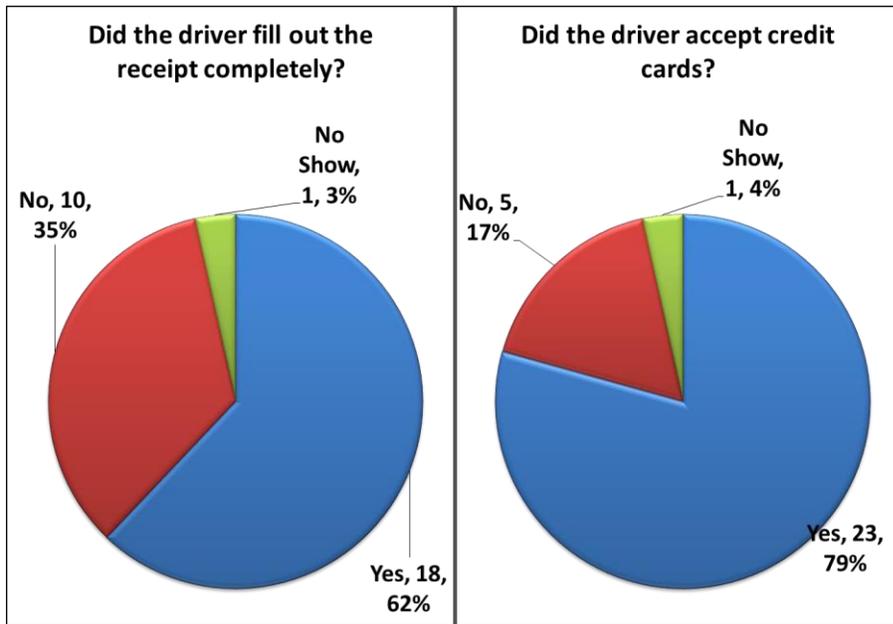
Disturbing however was the discovery that slightly over a quarter of the time, or 1 out of 4 trips, the driver did not know where he/she was going and was talking on their cell phones during the secret shopper trip. This would indicate the need for better screening of drivers and/or training with a requirement to pass a more rigorous city street knowledge test. Rules limiting the practice or ability to talk on their cell phones while the vehicle is moving would also eliminate this behavior and greatly improve the safety of both driver and passenger.

Figure 53

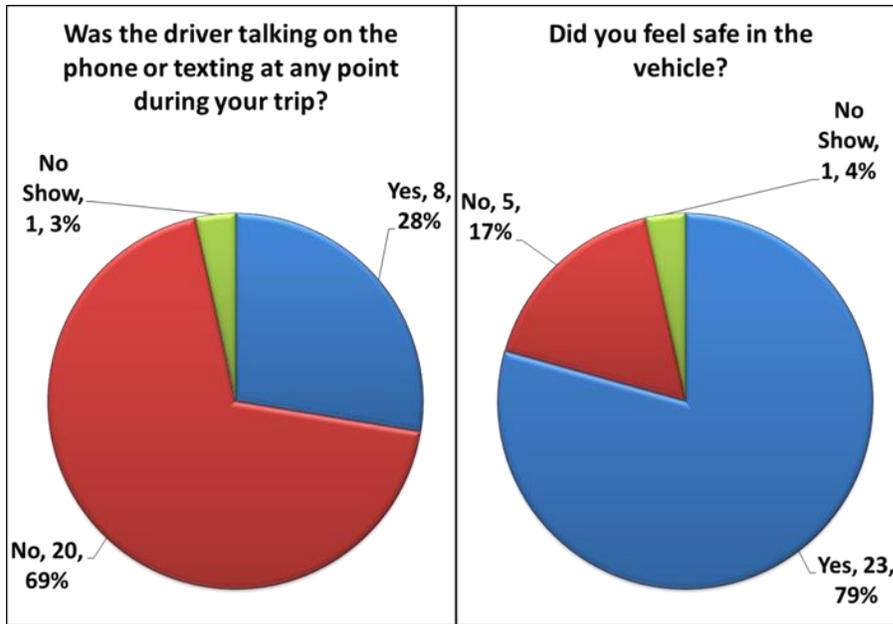


Finally, with respect to safety, 17% of the time our secret shoppers did not feel safe in the vehicle due to driver behavior. While probably not exceedingly high for many taxi trips, these trips are not in the City of Houston and excessive speed and driver behavior are serious issues

the City should deal with. New technologies which measure the speed of the vehicle via GPS and other technologies which measure braking actions of the driver can and should be employed in the taxi industry. However, both full service taxi companies and regulators alike must take steps to respond to complaints about dangerous driver behavior and take steps to remove those repeat offenders.



Total Respondents: 29



Total Respondents: 29

Figure 55

Overall, how was the service? Please describe your trip in detail.

Response	Count
Courteous driver	14
Knew the area/destination	6
Excellent service	5
Efficient driver	4
Clean Cab	2
Dislike short halls	4
Discourteous Driver	4
Driver talked on phone while driving	3
Rough driving	3
Cigarette smoke	2
Dislike service to rural and suburban areas	1
Long wait	1
Dirty cab	1

Figure 56

As one can see from these reports, a majority of the time, only two taxi companies, were consistently relied upon to provide service at all times of the day or night. Given that the requests for service came from both city center and suburbs, service was good, well within expectations one would expect from full service taxi dispatch companies, in generally clean vehicles, and credit cards were not a problem. Driver dress, cell phone use, and dangerous driving however, was commented on in several instances.

Generally, one would have to conclude that there are a lot of positive things about Houston's existing taxi services, especially the dispatched or call taxi services. Where the City's problems appear to lie, at least from the perspective of the frequent users, is from individual cab drivers that may not be dispatched but rather depend upon street hails and stands to generate their business.

In addition to frequent user surveys and secret shoppers, the City of Houston also commissioned a study of individual taxi users. This study was performed by Taxi Research Partners and is included below in this report. Information from their on-street and on-line survey was used to better understand the attitudes and openness of Houston taxicab users. Comments supplied with the summary presentation of this data are provided by Dr. Cooper of Taxi Research Partners. Following is this report in its entirety.

PUBLIC INTERCEPT SURVEY

Introduction

Taxi Research Partners has undertaken a survey to determine use and perceptions of taxi services in the City of Houston. Our work was completed in the Fall of 2013, and was completed using tablet based intercept surveys, described below. A total of 892 valid responses were received using the Tablet methodology. Tablet collected responses follow from a large-scale intercept survey undertaken in Houston in Summer 2013.

Note: The on-line site survey also experienced a period of intense response activity over one day suggestive of a concerted effort to influence the results of the survey. Analysis of the responses received during this time period reflect a very defined response pattern that is at odds with the intercept surveys. We have identified the responses received during this period as ‘at-risk’, and provided these as a separate spreadsheet to ARA. It is notable that the at-risk data relates to a significantly higher income demographic, dominated by respondents with incomes above \$100,000; of which 70% fall into the highest 2 brackets, not reflecting the cross community use of taxis by users of all income brackets. This is illustrated in the following table:

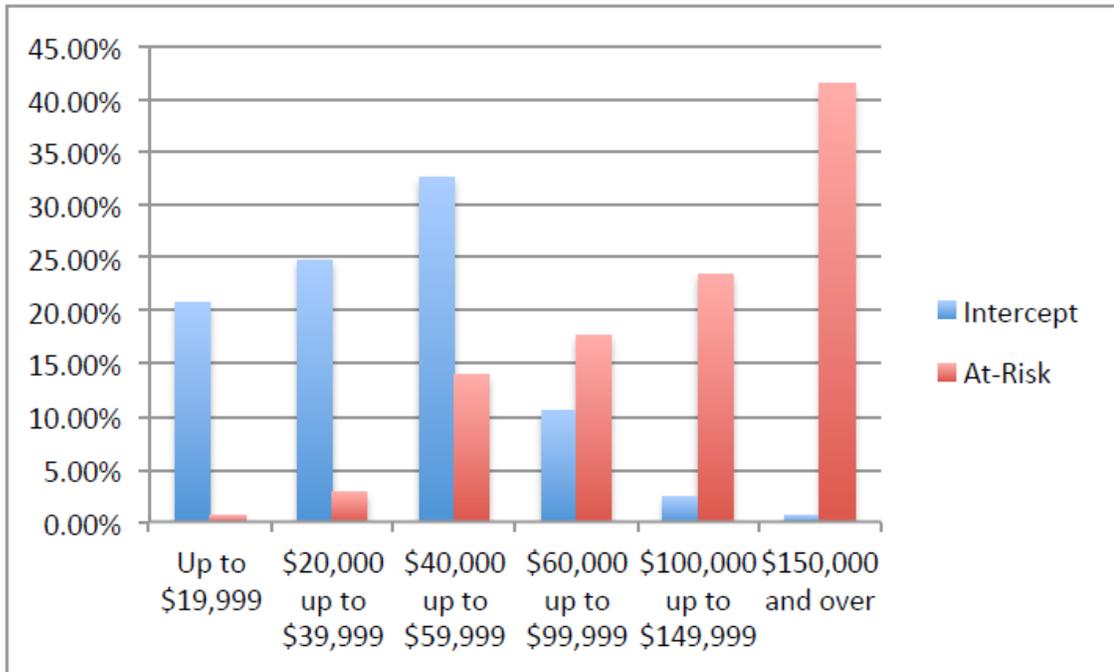


Figure 57

Source: Public Survey Results, City of Houston

Survey Methodology

The primary survey methodology used has been an intercept survey of members of the public using tablet computers. The work was undertaken throughout the City of Houston focused on a geographical spread of responses as well as ensuring a range of respondents reflecting local demographic circumstances.

A ‘last taxi trip’ approach was adopted in which respondents were asked to comment on their most recent taxi trip in the City of Houston, allowing for capture of trips across all time periods. The results from the tablet surveys are felt to represent a ‘snap shot’ of current views reflecting a representative and broad sample of individual taxi users.

Respondent Profile

The study did not seek to limit responses to any one demographic, reflecting the need to capture the views of local residents (including residents from neighboring communities working in Houston) and visitors alike. Responses split between 85% local residents and 15% visitors to

the city.

Public intercept survey responses were received from a broad cross section of respondents, with a mix of non-car users (23%), single (46%) and multiple car (31%) households; and across a range of income groups, see figure 58; age ranges, figure 59. 85% of all respondents in the public survey were City of Houston residents.

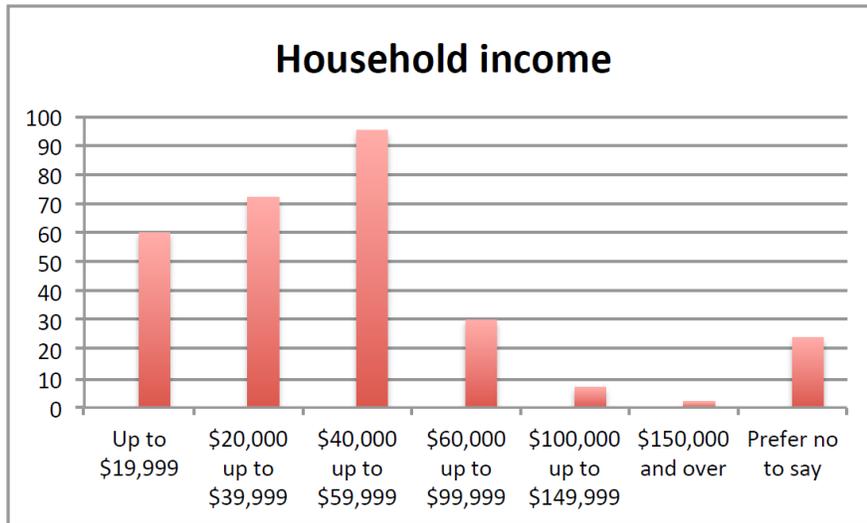


Figure 58: Household Income



Figure 59: Taxi User Age Demographic

Respondent race and gender was also captured to seek to ensure a cross section of the population was identified, illustrated in Figure 60. A slight bias is recorded toward female

respondents, see figure 61, 60% of responses were received from female respondents, though this was considered to be within a reasonable tolerance, and are included without adjustment.

Analysis of differing uses across the population were included in the analysis and are set out in subsequent sections.

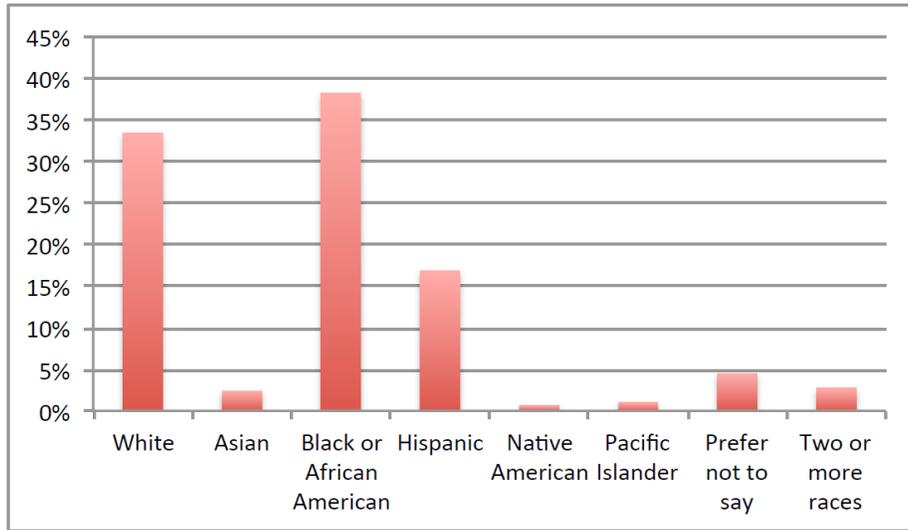


Figure 60: Respondent Race

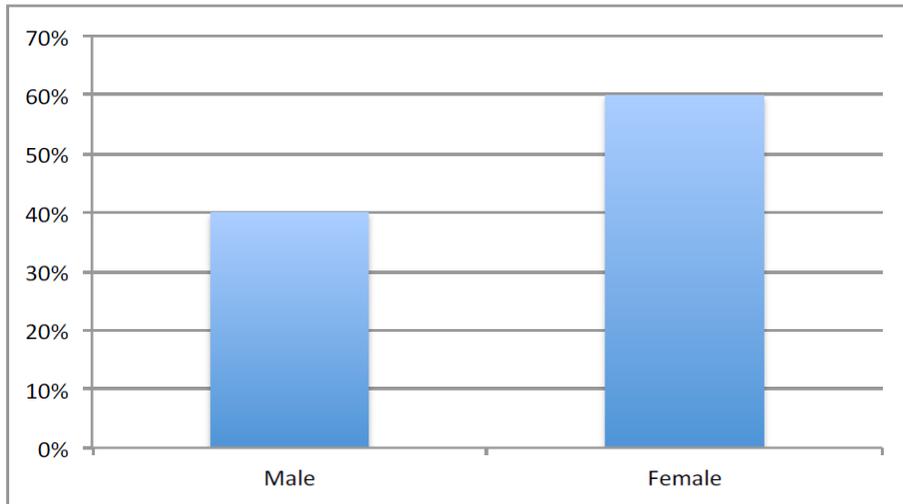


Figure 61: Respondent Gender

Trip Origins

Stated trip origins are significant in identifying particular uses of taxis in the city, which may also be used to provide a commentary on areas of shortfall in supply, and market segmentation. Analysis is possible in two areas, trip location, and trip purpose, the latter reflecting review of both trip origins, where stated; and trip destinations, also referred to as Origin / Destination pairs (O/D). Figure 62 illustrates primary trip origins, indicating the most frequent trip origin is a residential address (40% of responses), with typical night time trips (Bar/Nightclub and Restaurants) accounting for 17% of trip origins. Other high production types include Hotel origins (10%), and Airport origins (4%) of respondents.

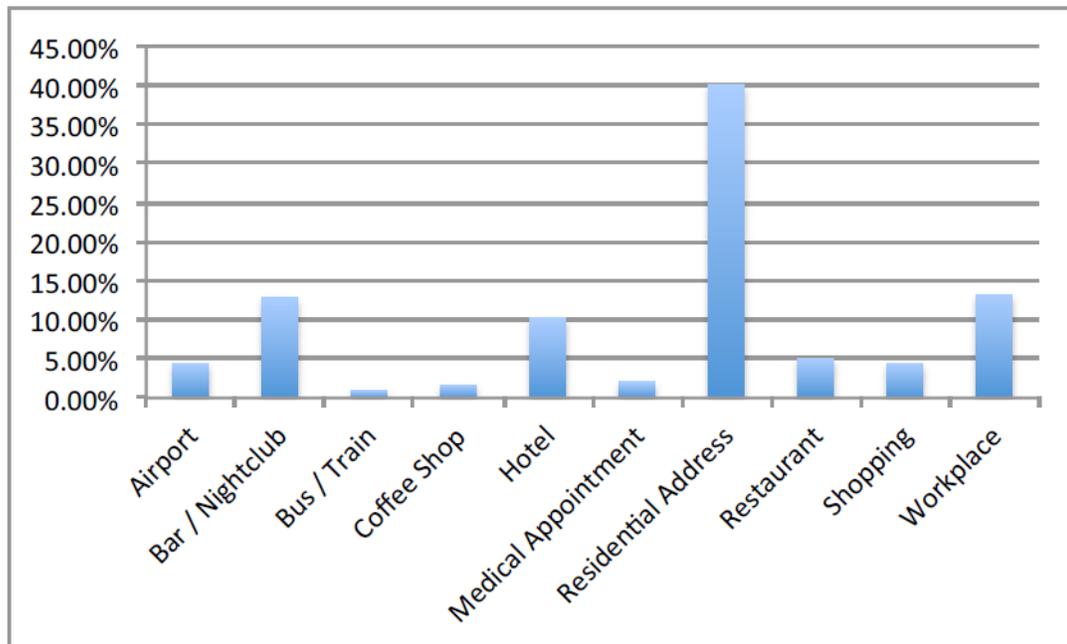


Figure 62: Trip Origin by Premises Type

The predominance of residential trip origins reflects a similar pattern seen in other US cities, though the extent of this demand (40%) is somewhat higher than other locations and is felt to reflect the spatial structure of the City of Houston as a distributed urban area with higher levels of auto use. The same structural issues would also explain lower levels of taxi use in night time entertainment in central locations, discussed below.

Higher levels of residential trip origins also place additional pressures on the dispatch of taxis, rather than their engagement at taxi stand or by hailing. Suburban demands for taxis are

generally not well served by cruising vehicles, as demand is spatially diverse, which may also create challenges in service response times as vehicles will typically have longer distances to travel to pick up locations.

Engagement Methods

The diversity of trip origin locations is borne out by the methods of engagement reported, see Figure 63. The majority of trips were booked calling a traditional taxi company (45%), which mirrors the higher demand levels for residential trips described above. New technologies (App and Internet bookings) accounted for an additional 10% of booking, which is in line with other cities, and reflects the similarity in delivery whether dispatched by phone or by app.

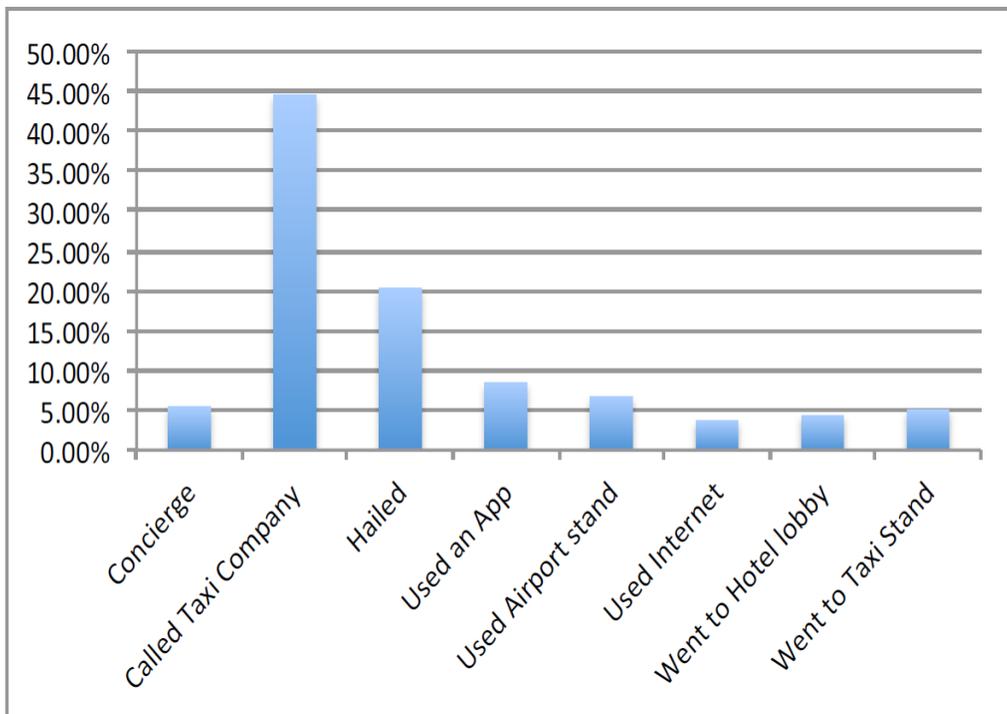


Figure 63: Method of Engagement

Frequency of taxi use was also measured, globally (Figure 64), and by dispatch method (Figure 65).

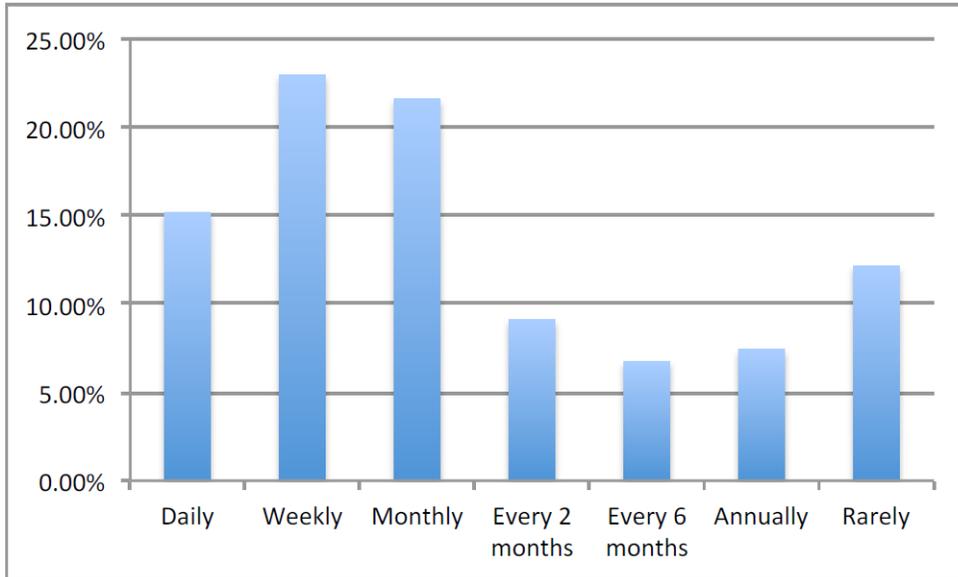


Figure 64: Frequency of Taxi Use

Over 55% of respondents used taxis monthly or more frequently, suggesting a relatively mature taxi market, with well-known methods of engagement, which are further illustrated in terms of market types, illustrated in Figure 65, with the markets of each engagement method illustrated in Figure 66.

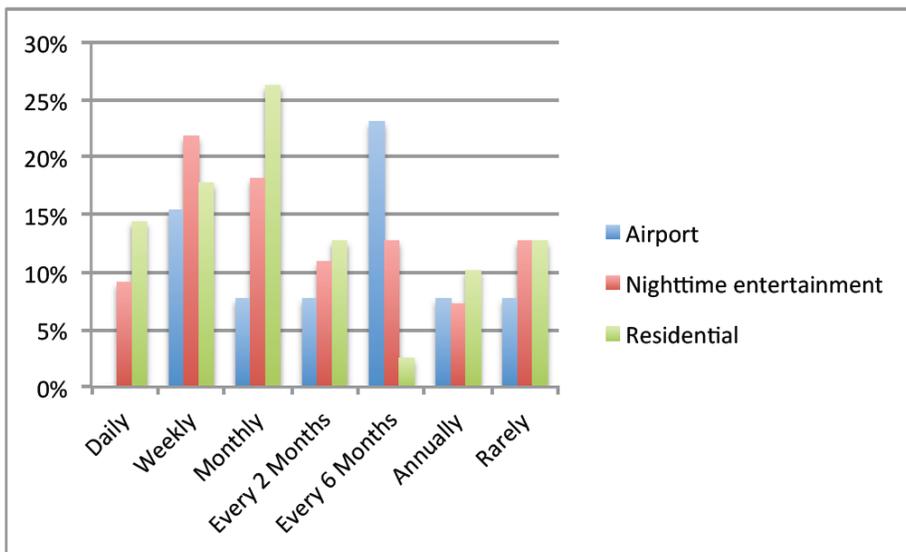


Figure 65: Frequency of Use by Trip Origin

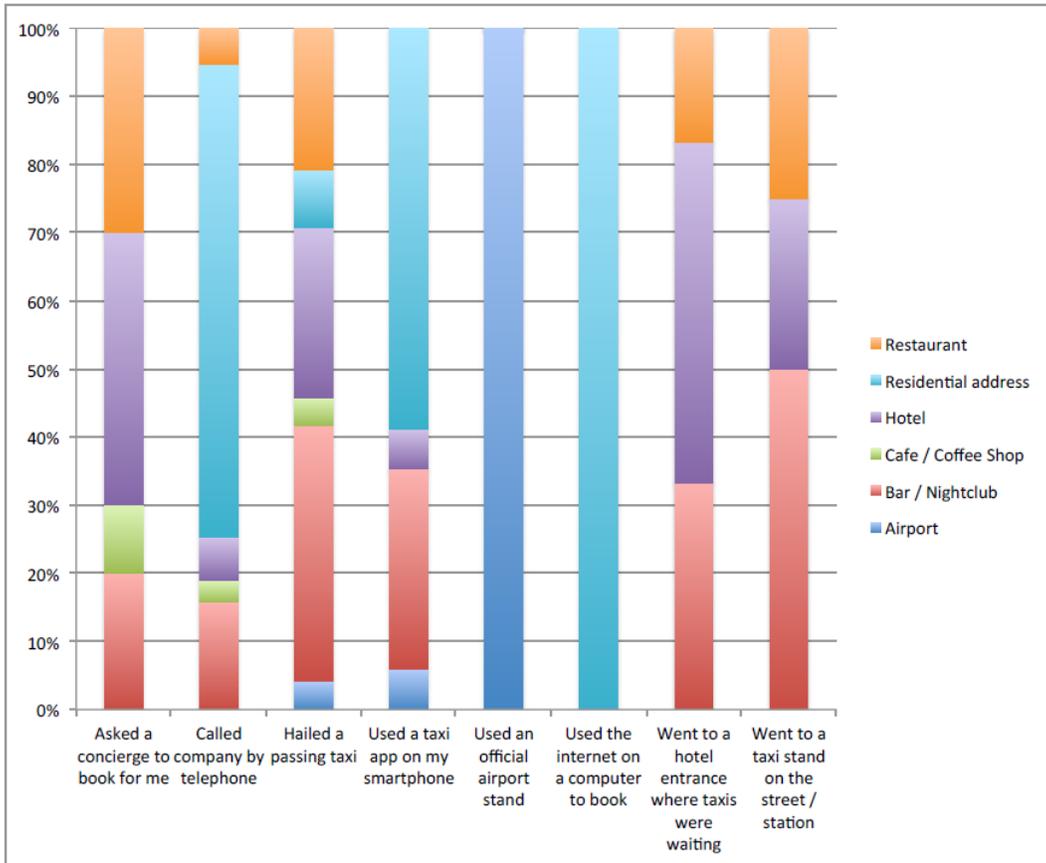


Figure 66: Engagement Method Split by Trip Origin

Impact of New Market Entrants

The use of smartphone apps represents approximately 7% of all trip engagement at the time of analysis, with a further 5% of all respondents using the internet to make bookings. Apps have the potential to change dynamics within the taxi industry, both in the methods by which passengers engage vehicles, and on the types of vehicles used.

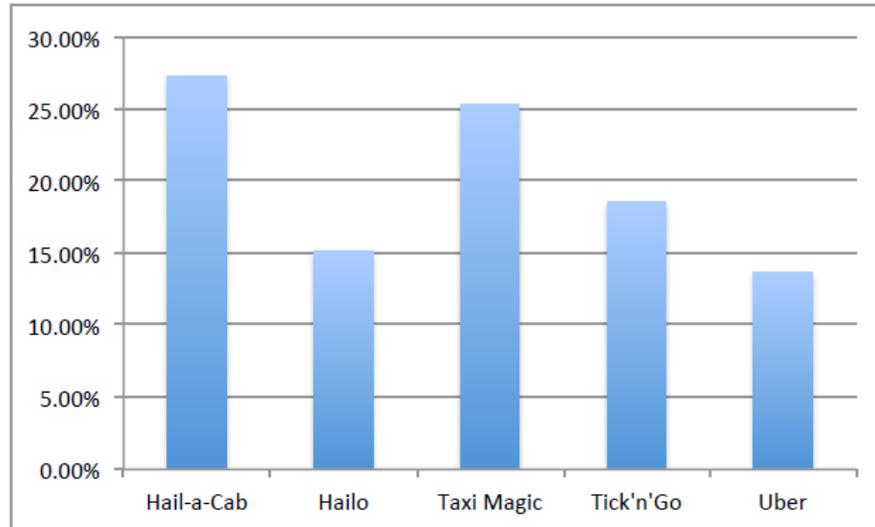


Figure 67: Use of Houston Taxi Apps

Respondents who answered that they used smartphone apps in Houston were asked to indicate which apps they had used in the city. Locally based app ‘Hail-a-Cab’ scored the highest at 27% of all apps used, Figure 67. It is notable that 13% of respondents indicated use of Uber, and 15% use of Hailo, despite these apps neither being available in Houston, nor used for booking taxis in the case of Uber. The inclusion of the Uber response may suggest a need to consider the ‘Limo’ segment offered by Uber in other cities.

Service Quality

A measure of service expectations, concentrating on service delivery and quality was undertaken. Service quality was split between qualitative issues, such as vehicle quality and driver behavior; and quantitative issues, such as waiting times for taxis. Respondent views of taxi services across the City of Houston was high at 81% satisfaction, further stratified in Figure 68, below.

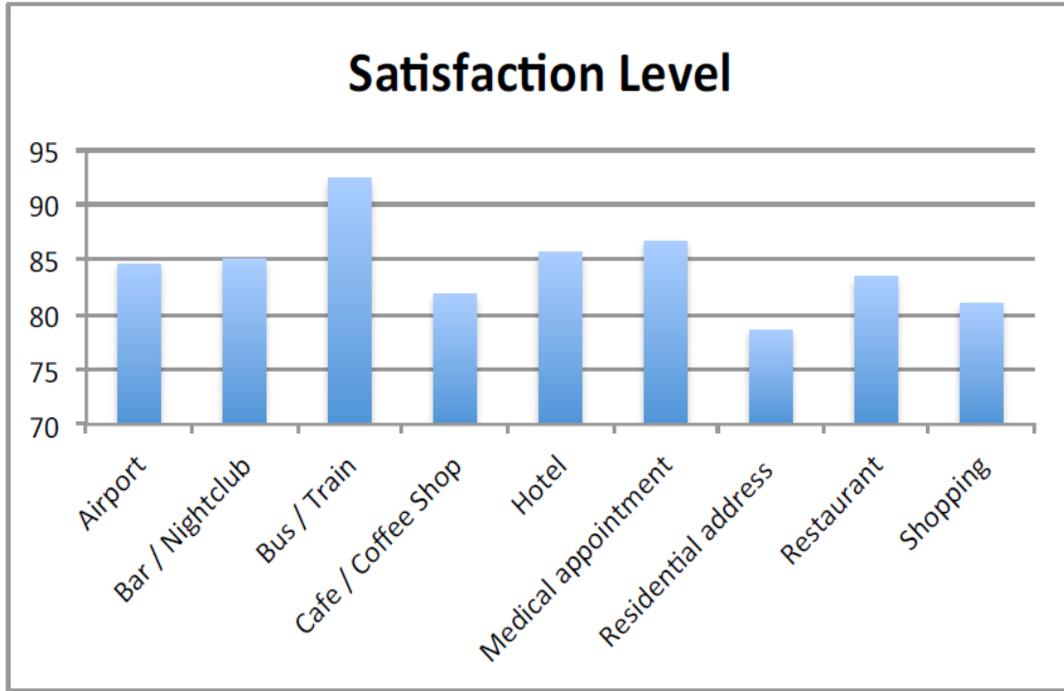


Figure 68: Satisfaction Level by Trip Origin

The highest satisfaction levels are reported in trips originating from a bus or train (92%), while residential trip origins display the lowest (78%); although the levels of customer satisfaction remain high in comparison with other similar locations. The survey also sorts to identify performance levels, both in terms of passenger expectation, and in service delivery. The survey asked what might be considered as reasonable waiting times across a selection of trip times, as illustrated in Figure 69, below. Expectation of waiting times give an illustration of ‘reasonable’ service delivery and can be directly compared to the service level felt to have been received.

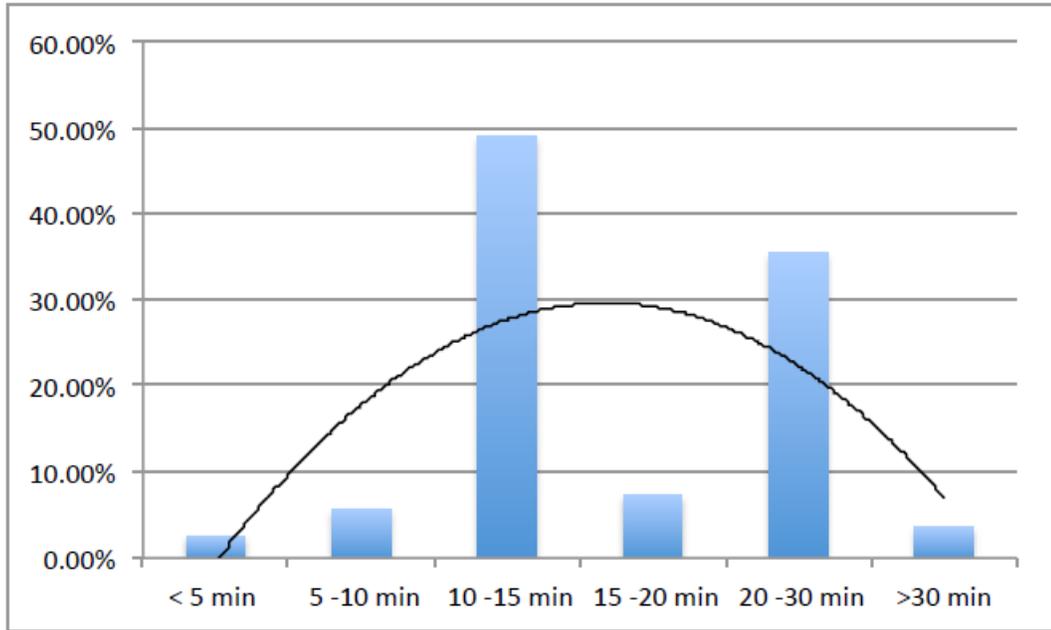


Figure 69: Reasonable Waiting Times, Weekend Nighttime

Figure 69 illustrates the amount of time felt reasonable to travel by taxi at a weekend night. Weekend night times are generally considered to be peak times for Taxi use, and will often represent the most challenging time period to match supply to demand. Two peaks are visible in the table, with the majority of respondents feeling waiting times between 10 and 15 minutes reasonable.

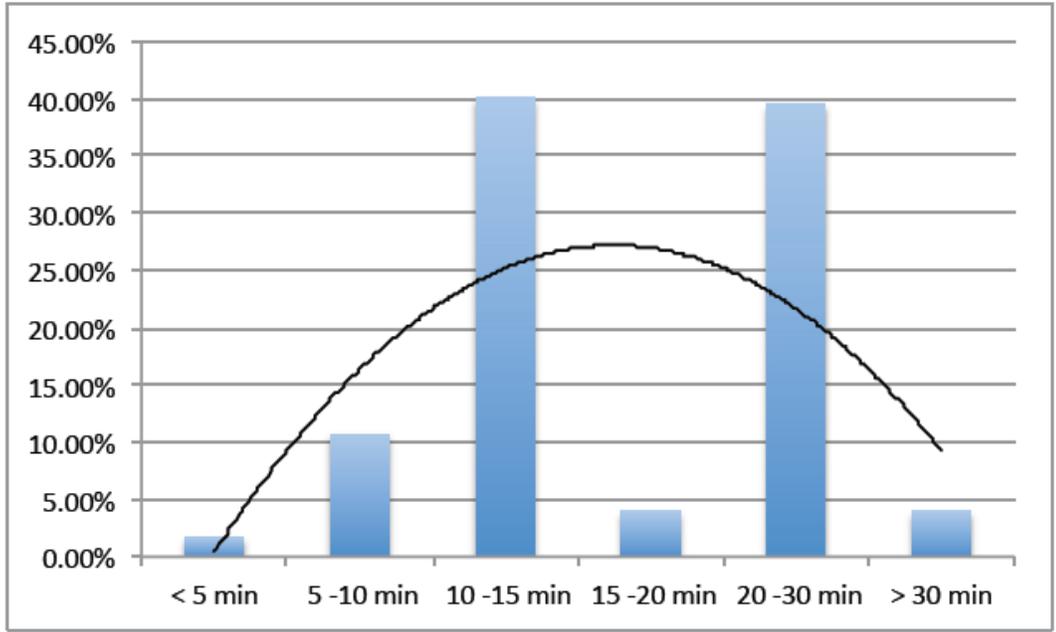


Figure 70: Reasonable Waiting Time, Middle of the Day

A similar pattern emerges of waiting time expectation for taxis in the middle of the day, see Figure 70. Evening commuting expectations are slightly more generous than daytime (Figure 71) and weekend night times and may reflect differing values of time attributed to these time periods -- also visible in morning commute expectations, see Figure 72.

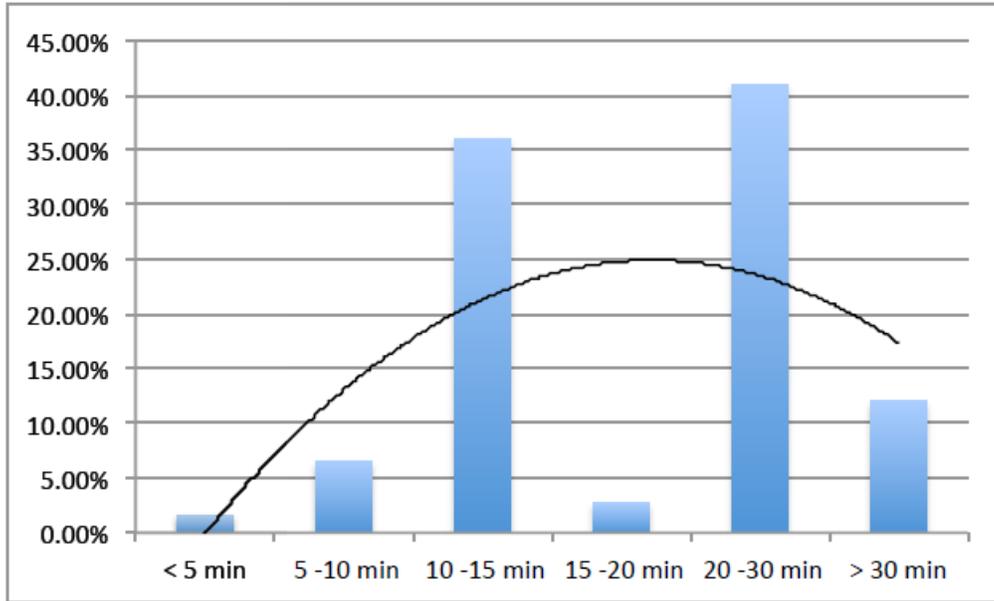


Figure 71: Reasonable Waiting Times, Evening Commute

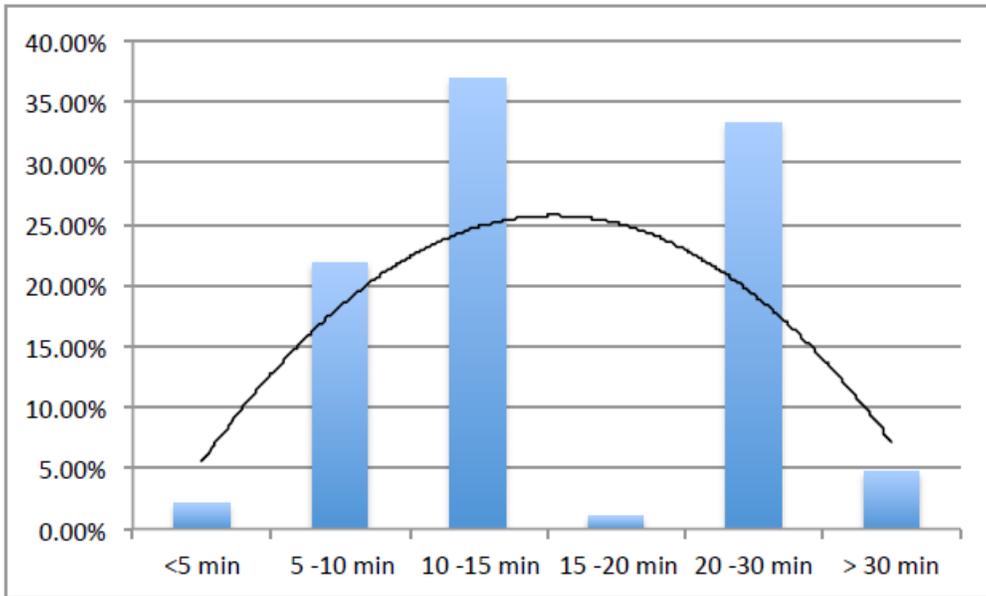


Figure 72: Reasonable Waiting Times, Morning Commute

Figures 69 - 72 illustrate stated reasonable waiting times for four primary trip times, weekend nighttime – which broadly matches entertainment travel; weekday daytime – capturing shopping trips; evening and morning commuting times. The diagrams are overlaid with trend lines and a measurement of mean values across the periods. It is noticeable that morning commuting trips displayed the greatest value of time, reflected in the shortest expected waiting times, though the level of variance is low, suggesting a consistent experience in use of taxis in

the City of Houston. Waiting times in the brackets up to 15 minutes appeared the most commonly reported expectations of the city of Houston fleet. Respondents were also asked to identify the waiting times that they had experienced in the last trip, see Figure 73.

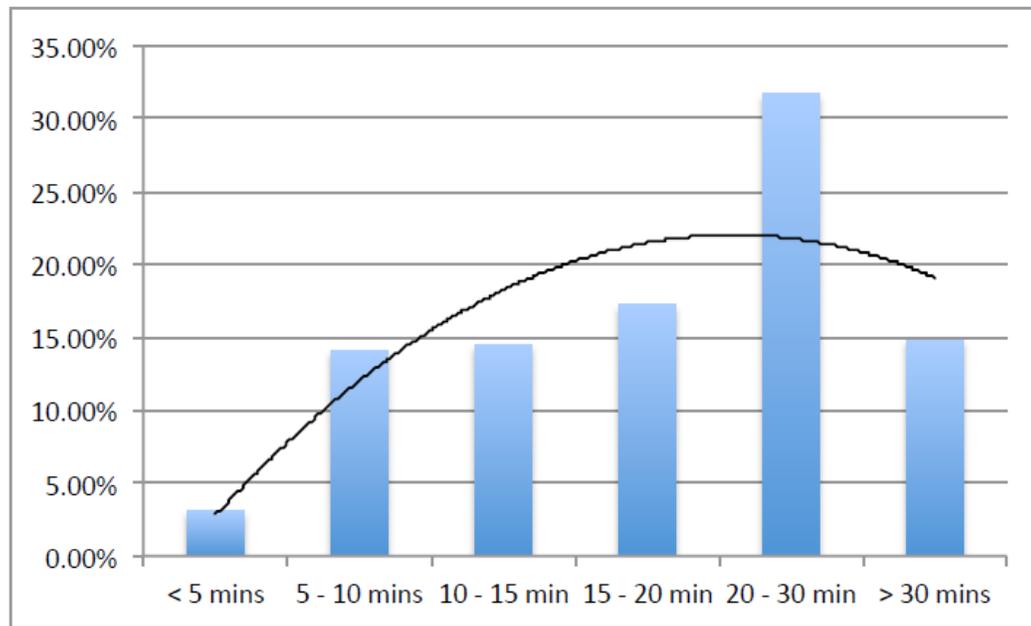


Figure 73: Waiting Times, Last Trip by Taxi

Figure 73 illustrates that taxi waiting times, as reported in our survey, failed to match expectations felt desirable, though the variance between expectations and service received is limited.

When asked about satisfaction levels of waiting times alone, respondents were less satisfied compared to their overall experiences with taxis, see Figure 74. Hotel trip origins received the highest level of satisfaction in waiting time, reflecting the normal availability of vehicles at these points, while bus and train trip origins and residential trip origins scored lower. Waiting times at bus stations contrasts significantly with overall satisfaction levels at the same points, which scored more highly. Residential trip origins (waiting time satisfaction – 65%) reflect the nature of providing service to suburban locations.

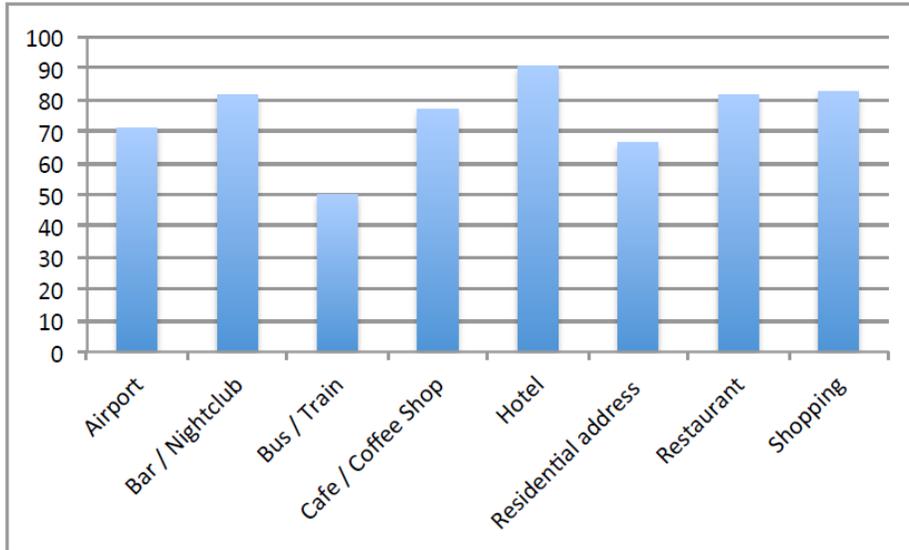


Figure 74: Satisfaction Levels, Waiting Time by Origin

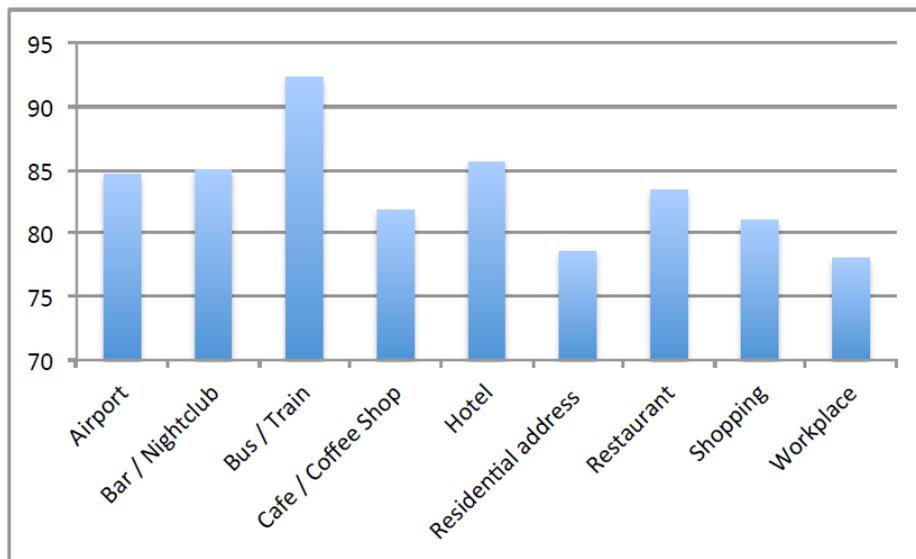


Figure 75: Satisfaction Levels, Vehicle Quality

Vehicle quality satisfaction rated highly across all primary trip origins, falling consistently in the bracket between 80% and 85% satisfaction levels. Services provided to residential addresses scored less well than other trip origins, with the satisfaction rate of 78%, suggesting that vehicles in residential areas may not represent the fleet as well as those operating downtown to cruising and cabstand markets. Bus and train trip origins, which are most commonly served by ranking Taxis, scored the highest, followed by hotel originating trips - potentially reflecting the ability of ranking taxis to clean and present vehicles whilst on stand.

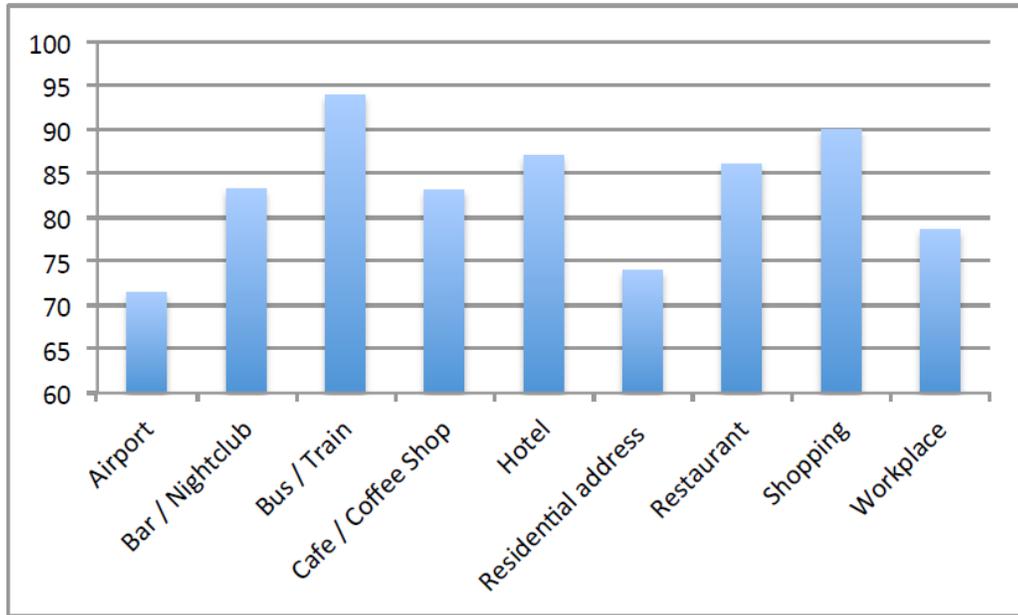


Figure 76: Satisfaction Levels, Driver Service

Public responses in relation to driver service were also high across most trip origins, see Figure 76. The lowest scores were recorded for trips originating at the airports and residential trips.

Methods of Payment

Methods of payment can also be an issue in the delivery of taxi services, though the majority of respondents indicated satisfaction with the ability to pay for services, see Figure 77. Figure 78 illustrates the methods of payment used by respondents in the City of Houston.



Figure 77: Satisfaction Levels, Method of Payment

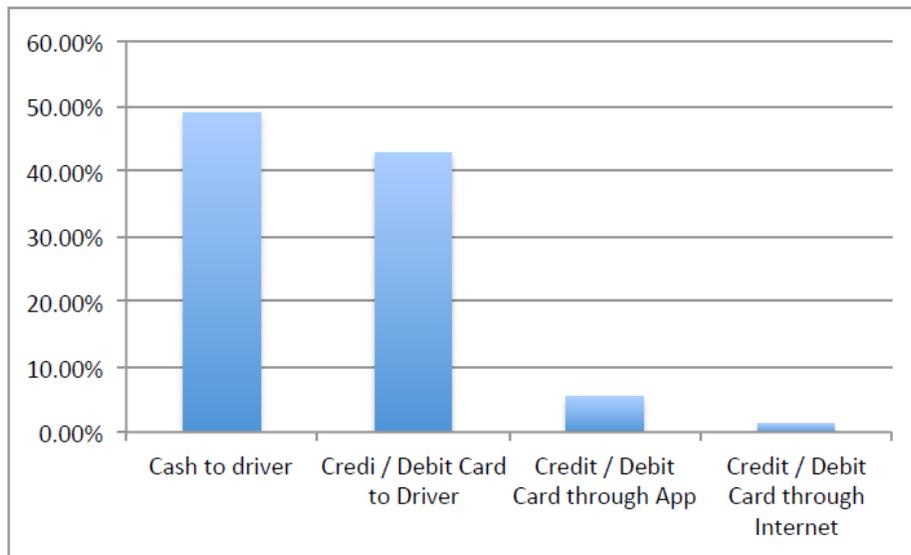


Figure 78: Method of Payment

A small majority of trips were paid for by credit card, including those paid automatically by smartphone app using a credit card and Internet bookings. The extent of this use would suggest that a few barriers still exist to using credit cards in the City of Houston.

Modal Choice and Use of Taxis

Respondents who indicated that they had not used taxis in the last 12 months were asked to comment on their use of other modes, and reasons why they may choose other modes of

transport, see Figure 79. The majority of respondents selected that they had no need to use taxis, followed by ‘preferring the private car’. Though a number of more negative reasons were also reported, and are summarized in subsequent sections of this report.

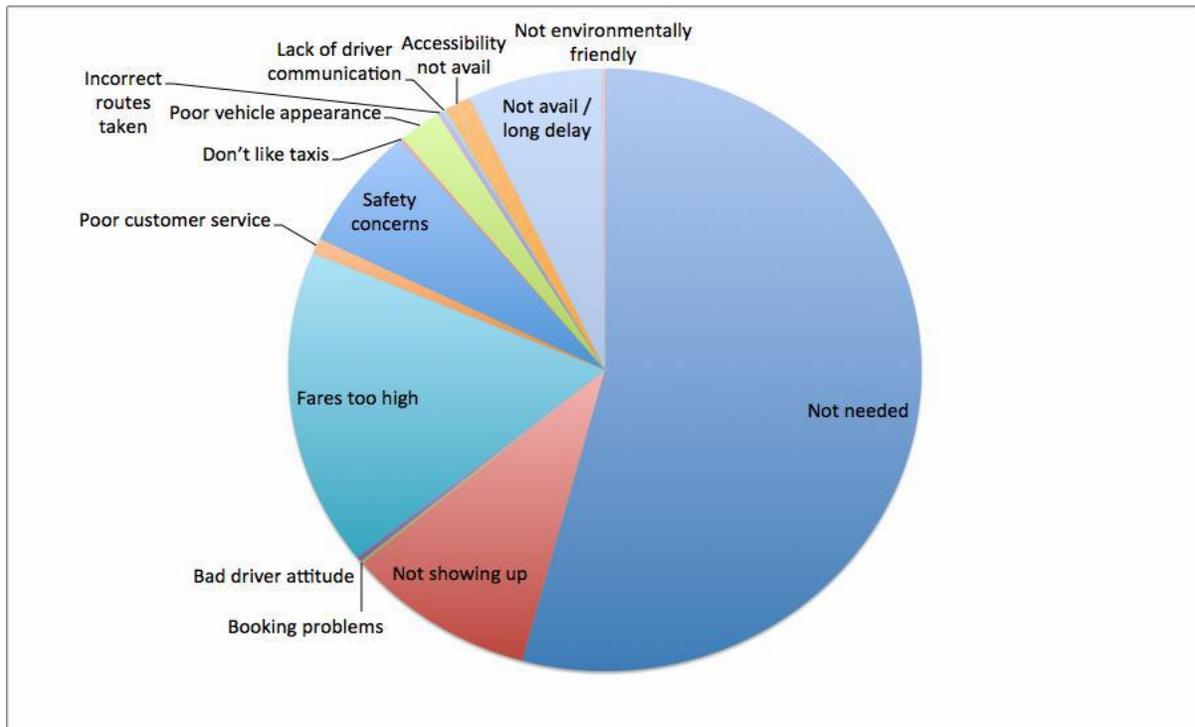


Figure 79: Reasons for not Using Taxis in Houston

This potentially covers a wide variety of reasons, typically that other forms of transport were available, and should not, in itself be seen as a negative indication on the taxi industry. More fundamental reasons for not using a taxi cited included the level of taxi fares, and structural issues related to vehicles not being available, or simply not showing, the latter two reasons, not being available or not showing (17%), a sizable percentage, which reflects poorly on the taxi industry’s ability to serve all trips. Other worrying responses include safety concerns (6%) and poor vehicle condition and appearance (3%), though condition of vehicle may be more straightforward to influence than lack of supply.

Lack of Supply

Lack of supply appears in two variables, that vehicles are unable to serve or are not available to a request, which impacts more in suburban locations than city centers.

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Market Growth

In addition to factors reducing taxi use, those that may increase use were considered, see Figure 80. Highest scoring values were recorded for lower fares, with other issues in order including: more knowledgeable drivers, easier payment and supply of vehicles to taxi stands.

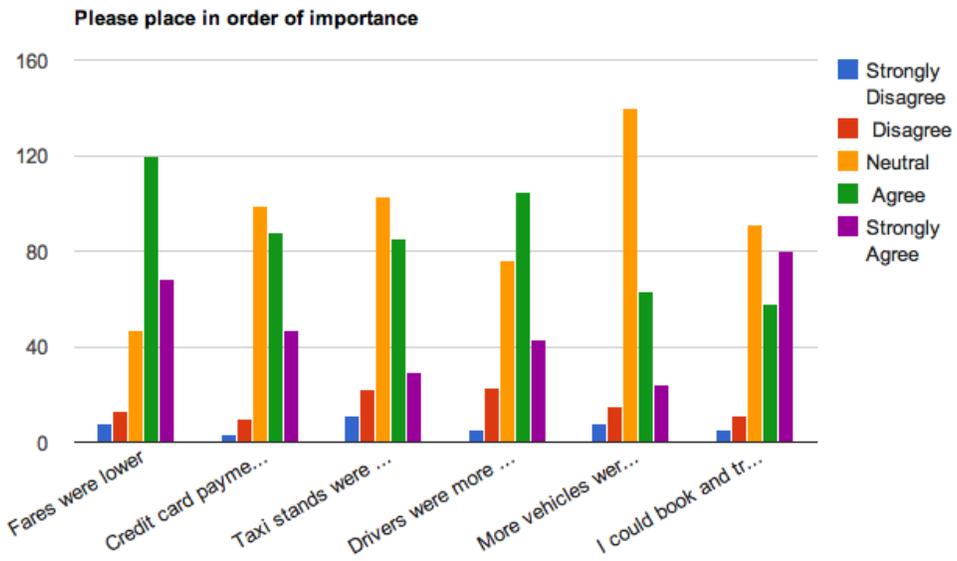


Figure 80: Incentives for Using Taxis More Often

Accessibility

The provision of accessibility in taxi fleets is an issue in a number of locations, and was included in the City of Houston survey. Accessibility is most often allied to the provision of Wheelchair Accessible Taxis (WATs), sometimes referred to as Wheelchair Accessible Vehicles (WAVs) which may also fall under the auspices of the Americans with Disabilities Act (ADA) which defines physical standards for accessible vehicle types. In truth the needs of an accessible vehicle extend beyond physical dimensions appropriate to wheelchair use, although this is a highly visible measure that is not well served by many vehicle types.

The survey asked people about their accessibility needs to determine if the supply of accessible vehicles in Houston is sufficient to the demand. The majority of respondents (91%) did not have any special needs for accessibility, see Figure 81, though a proportion (9%) stated some specific accessibility needs.

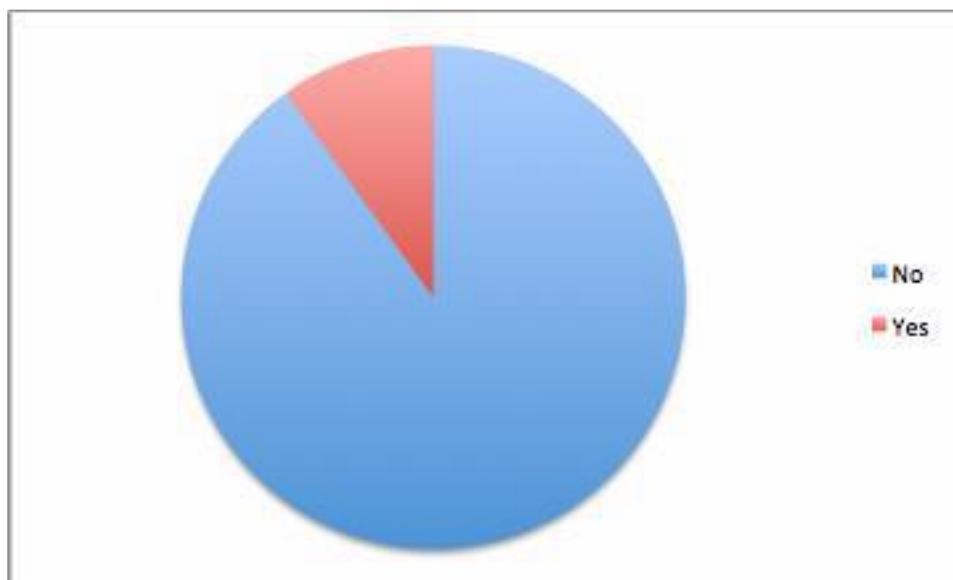


Figure 81: Do you have specific accessibility requirements in using taxis?

Respondents were further asked to define the ‘appropriateness’ of accessible vehicles within the fleet, considering both the numbers of vehicles and quality of service received, see Figure 82.

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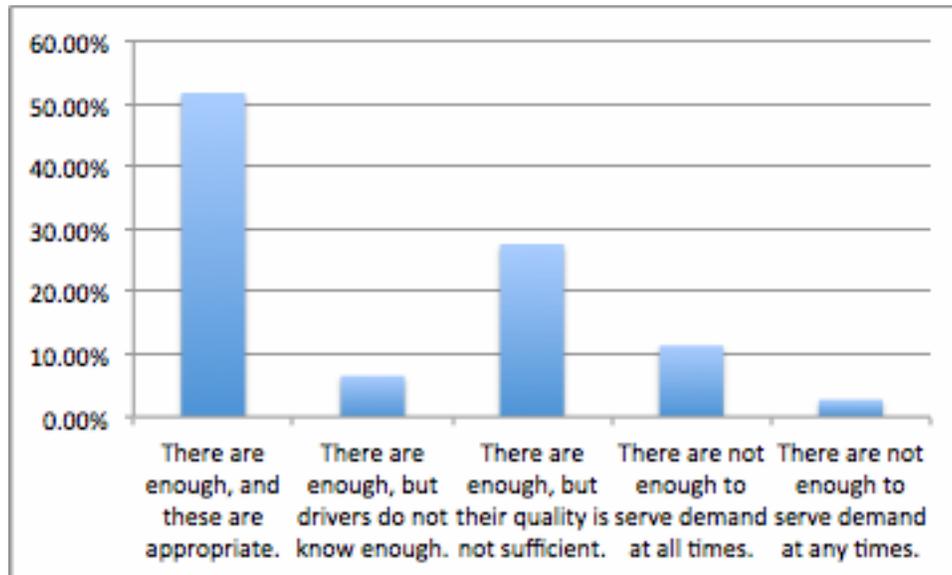


Figure 82: Number and Quality of Accessible Vehicles in Taxi Fleet

Just under 90% of respondents considered there to be enough accessible vehicles in the Houston fleet, but a far smaller number felt quality of service to be adequate (51%).

Quality of Service

The survey also addressed a wide range of service quality metrics. We asked a number of questions to determine the quality of the service. The first question was related to the quality of the vehicles. The majority of respondents rated vehicle quality as good or very good.

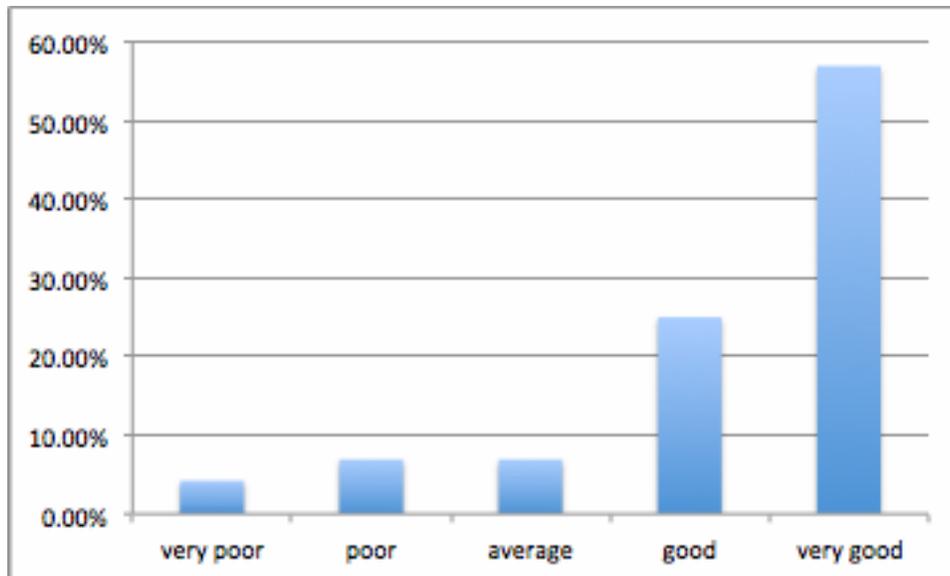


Figure 83: Vehicle Quality

Driver service also scored highly, see Figure 84, but also displayed a higher number of 'very poor' responses than for vehicle quality. The presence of 10% response to very poor drivers should be of concern, and was further considered in relation to the trip types of the respondents, see Figure 85.

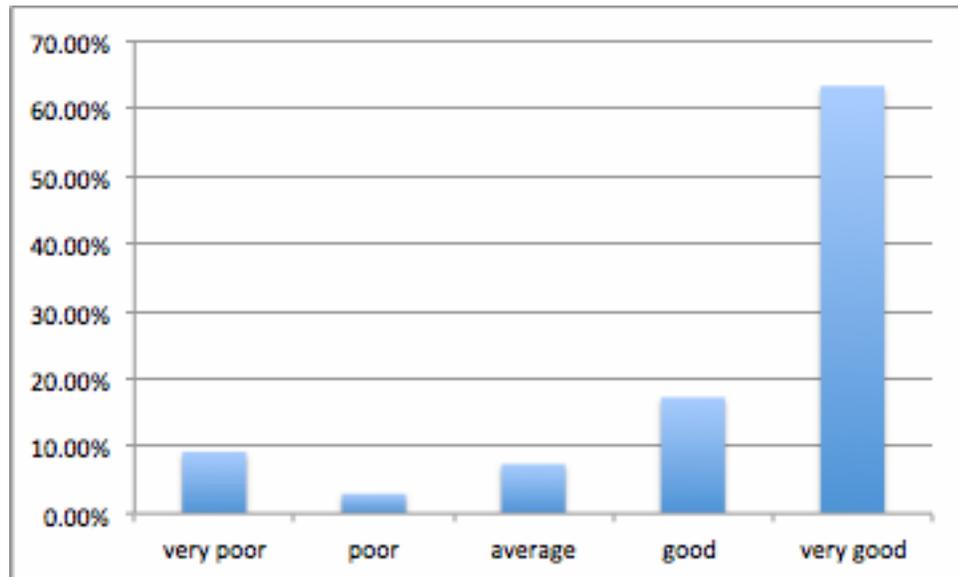


Figure 84: Driver Quality

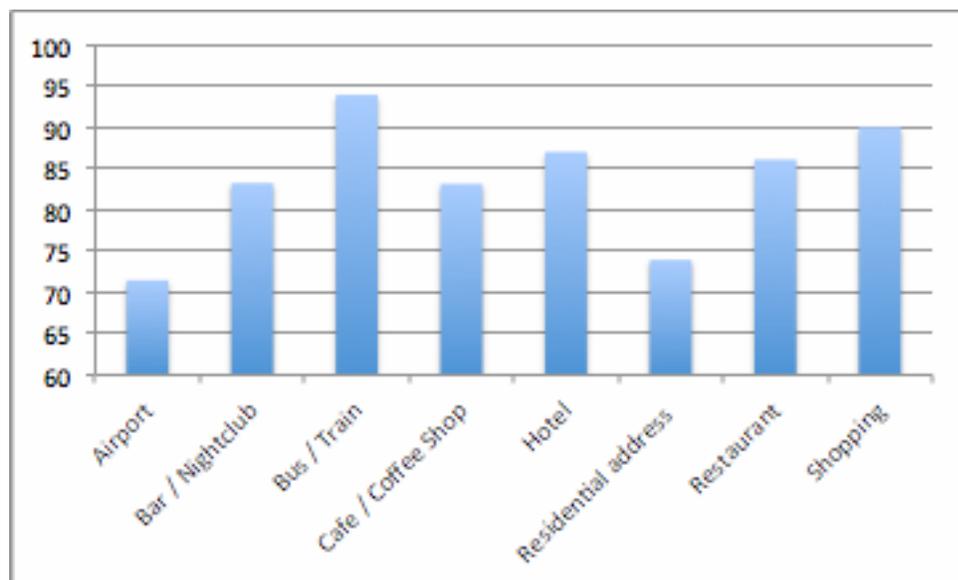


Figure 85: Driver Quality by Trip Origin

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Driver quality scored lowest for airport and residential originating trips, the former – airport trips – being somewhat surprising as both Bush Intercontinental and Hobby airports reported taxi controls.

Waiting Times

In previous sections we outlined the expectations of waiting times (average values in the 15 - 20 minute category), and the perception that waiting times experienced were longer. The survey also sought to identify the level of dissatisfaction of passengers waiting for taxis, see Figure 86. Despite the apparent failure, most services taking slightly longer to deliver than felt desirable, actual satisfaction levels were high, suggesting that the deviation between desired and actual waiting times were not considered to be significant.

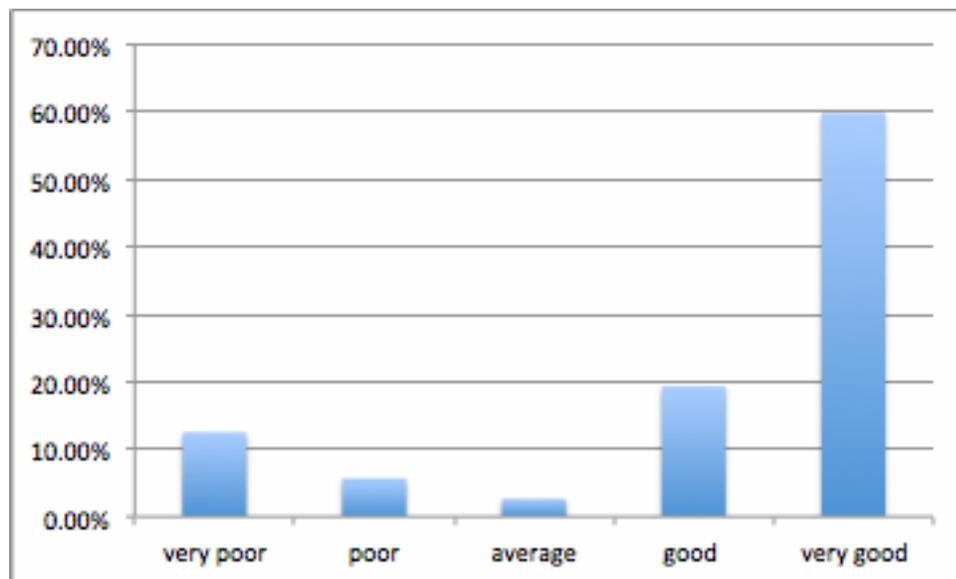


Figure 86: Satisfaction with Waiting Times

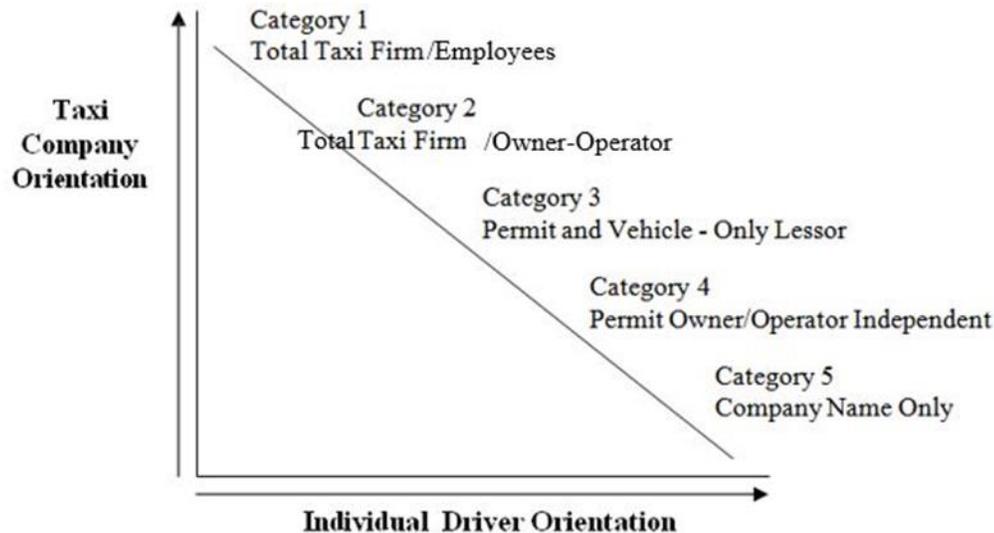
Conclusions

The public intercept survey highlights a generally good level of service across the majority of measures for taxis in the City of Houston. A split is apparent between some taxis serving residential trip origins, typically suburban originating trips, and those available in the downtown core. This dichotomy is seen in a large number of cities, and should not be considered unusual.

A key element in the split relates to the nature of provision, suburban services relying on dispatch and often with longer positioning times, reflected in the lower service scores in residential trips.

APPENDIX A: DETAILED EXPLANATION OF TYPES OF TAXI COMPANIES

Continuum of City Taxicab Firms



At the top of the above slope, Category 1 represents the total taxi firm or to some, the historical taxi firm. In this category, a taxi firm has a physical facility from which to conduct it dispatching and vehicle maintenance. A full service taxi firm also provides drivers (as employees), significant advertising, comprehensive radio dispatching, insurance, and fleet maintained vehicles. Moreover, this type of taxi firm provides for collective agreements with major clients or social service agencies, accepts credit cards with no additional charge, and represents a firm that stands behind its service -- often trying to differentiate its service from the competition. These firms accept all major credit cards, establish voucher systems with hotels, airlines for group rides, and often pre-sell their services to conference and convention groups. Only a few major cities currently have this type of full service taxicab firm utilizing employee drivers. Las Vegas is the notable exception to this generalization due to its orientation toward the famous “Vegas Strip” and state regulations.

Competitive pressures, federal and state laws regarding employees, and industry interests have forced the elimination of taxi drivers as employees in most other major U.S. cities. In their place are the less costly independent contractors or lease drivers (Category 2 in Figure 1). At this level the full service taxi firm retains all the service and obligations of its

former common carrier status, i.e., insurance, vehicle ownership, radio dispatch, service agreements, etc., but elects to lease its fleet vehicles to independent contractor drivers.

These lease arrangements can be a straight lease of so much per 12-hour shift, by the day, or by weekly leases. A common form of the lease arrangement is the commissioned driver, where the revenue from the vehicle is split with the driver after gasoline and tolls are deducted from the total. With the commission or split arrangement, total taxi companies are acting in their own best interest by putting only the number of taxi vehicles out on the street as necessary since they maintain the vehicle and would receive no additional revenues if they oversupplied the market. The taxi driver benefits by staying busy and earning the maximum amount possible given the time he/she is leasing the vehicle.

Unfortunately, it is common practice for these independent drivers to decide whether or not to take radio or dispatched trips as they are presented. Attempting to protect their status as “non-employees, the taxi firm dispatchers offer the telephone request for taxi service to the independent driver and if refused the dispatcher typically moves onto the next driver willing to take the call. Usually the dispatch offer for business is taken but not always, leaving some trips uncovered. In order to maintain the non-employee status, it is often felt that the taxi firm dispatchers cannot order a driver to take any particular call.

While there is economic gain to the traditional taxi firm to move to Category 2, (e.g. no employee taxes, wages, EEOC, paternity leave, vacation or sick days, employee lawsuits, liability for driver accidents, or record keeping), there can be a noticeable loss of managerial control. As stated above, a driver does not perceive that he or she has to accept a radio dispatched call, but rather can elect to wait for a better fare. This poses a problem for the typical municipal taxi firm, which is required by its original Certificate of Convenience and Necessary (taxi license) to accept all requests for service. This is particularly relevant to out-of-the-way locations and/or high crime areas which are often undesirable trips, for obvious reasons.

Category 2 also shifts the decision of hours of work onto the driver, since after leasing the vehicle for a prescribed period, he/she has the option to work none, some, or all of the hours for which the taxi vehicles is leased. The resulting behavior has led cities to pass ordinances or rules which state the maximum number of hours a taxi driver can be on duty out of 24 consecutive hours.

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Under the split commission approach to drivers, full service taxi company officials, realizing the potential loss of revenue from their portion of the revenue split, are generally not interested in continuing to lease vehicles to individuals that prefer not to take dispatch calls unless they are good fares.

A further variation of a Category 2 full service taxi firm is when management decides to also eliminate its ownership of the taxi vehicle. In addition to being an independent driver, the individual wishing to drive a taxi for this type of taxi firm must provide a suitable taxi vehicle to use. This vehicle is then painted in the colors of the taxi firm and fitted with a taximeter which the driver typically rents from the taxi firm.

Such “asset light” operations are also common in other service industries where the service is provided by an independent contractor. Most trucking firms do not own their own trucks, but rather pay an independent truck driver that provides both his/her labor and a truck. The issue in the taxi industry, however, is the ongoing condition of the taxi vehicle and overall appearance. In many instances, the management of the taxi firms might seldom see these vehicles that are flying the company’s taxi colors. In Category 2 however, the taxi firm still provides all the company functions of a Category 1 – marketing, dispatching, credit card processing, corporate clients, etc.

In smaller operations, a limited version of a Category 2 firm may initially operate as a home based business, but then as the company grows, it typically expands into its own facility, either by zoning regulations or the need for additional space and a place to interact with drivers and 24-hour dispatchers.

A level down from the company orientation to that of the driver orientation of the taxicab firm is represented above by Category 3 -- *Permit and Vehicle-Only Lessor*. It is often difficult to distinguish a Category 2 taxi firm from a Category 3, but in this scenario, a single individual, acting in name only as a taxi firm, will lease his/her taxicab permit(s) and vehicle(s) to independent contractor drivers. Typically, such an individual or firm provides very little or no dispatching and no marketing, other than perhaps a listing in the Yellow Pages of the local phone company. Today, this is possible because almost all drivers have cell phones for use with regular patrons. In addition, the drivers may be connected through a common cell phone system that lets them easily reach one another to see who can take a call for service. Typically, such operations are comprised of ten or fewer vehicles in what is

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referred to as a “spider” network – trading customer calls to cover their demand. In summary, this Category 3 taxi firm would offer no real coordinated 24- hour radio service, advertising, or service contracts, credit card, or voucher support.

In recent years there appears to be a hybrid type of taxi firm that is both Category 2 and 3. That is, they have certain vehicles that they lease for general use within the community. These vehicles take dispatch calls and participate in corporate client business and other clients of the taxi firm. Such a firm may also have “airport only” cabs for lease or lease their permits to individuals that want to bring their own vehicles but want to serve only the airport. These operators are often referred to within the industry as “airport commandos” since they serve only the airport and whatever personals they may be able to secure. Typically, the lease fee for these airport-only cabs will be considerably less than that of the general community use cab. Due to the wait time at the airport, it is typical for the general community use cab to not participate in airport traffic unless called for a prearranged pickup, or when there is just no other business available.

The Fourth Category on the continuum of taxi firms is that of the single permit owner/operator. In a Category 4 firm, the holder of the permit is also the driver. This driver typically does not have availability of radio dispatch and/or service contracts with hotels and is forced to work the public cabstands, primarily the airport, and any "personals" he/she may develop. In this scenario, the taxi driver is an independent driver contracted mainly to the city or airport or both. Thus, the airport or the city becomes the de-facto personnel department for these drivers. The city’s or airport’s responsibility is to screen drivers (issue a permit), manage their conduct (require that they follow the taxi ordinances), and discipline them when necessary (issues citations/violations).

Furthest away from the traditional regulated taxi firm is Category 5 -- *Permit Only Lessor*. In this scenario the holder of city or airport permit simply pays the city an annual fee for the permit privilege and then either drives a single vehicle himself or leases it to the independent taxi driver who must provide his own vehicle, insurance, maintenance, etc. associated with operating a taxicab. Nothing else is provided. In essence, the permit holder provides no additional economic value to the permit other than to lease it to a city-licensed taxicab driver and inspected vehicle. This category’s firms are comprised often of what the industry refers to as independent owner-operator, medallion drivers.

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In this scenario, the city or airport again assumes the role of being the personnel department for the independent taxicab drivers. Often these drivers will join driver associations for the purposes of purchasing insurance and/or furthering their desires for increases in taxi fares and community support for the taxi drivers.

As shown, this continuum of taxicab firms ranges from the total taxi firm which adds significant economic value to the city's taxicab permit, down to that of a simple permit holder who leases a city property (the taxi permit) to the highest bidder. At the upper end of this continuum, the total taxi firm is adding significant value to the community permit, using their own employees or commissioned drivers which they manage themselves. As we move toward the concept of the independent driver who owns his/her own vehicle, the community and/or airport inherits a much greater role in the management of these taxi drivers on a day-to-day basis.

Unfortunately, most city regulatory systems are set up as if we still had either Category 1 or Category 2 taxi firms and, as such, they assume very little management role of the taxi drivers at first, but over time, through issuance of driver's permits, vehicle inspections, daily citations for violations of city/airport taxi ordinances, etc. the Board becomes the day-to-day management of the community's taxi operations. This framework is an appropriate template upon which the City of Winnipeg's taxi firms can be placed.

APPENDIX B: LETTERS FROM MAYOR

ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Bob Eury, Executive Director
Downtown Management Association
909 Fannin, #1650
Houston, Texas 77010

Dear Mr. Eury:

The City of Houston has retained the Tennessee Transportation & Logistics Foundation (TTLF) to conduct a thorough review of the taxicab industry in Houston. Several key issues will be explored during the assessment period. One area that you may be interested in is taxicab services. The review will evaluate service provided by the taxi industry, including an assessment of the current dispatch system market, passenger experience, and passenger/driver safety.

Below is a link to a brief questionnaire, which should only take a moment to complete. We would appreciate your emailing this to your members so they may complete the survey. The response of your membership is vital to the success of this project, so please ask your members to take the time to let us know how they feel. Whether they are completely satisfied with the service they are receiving at your establishment or if you believe that there is a need for improvement, please respond. Their responses will be held in the strictest confidence, so please ask them comment freely.

Survey Monkey Link:

https://www.surveymonkey.com/s/Houston_Downtown_Association

I'd like to offer my personal thanks in advance for your participation in this important review of taxicab service in Houston.

Sincerely,

A handwritten signature in cursive script that reads "Annise D. Parker".

Annise D. Parker
Mayor

Enclosures

POST OFFICE BOX 1562 - HOUSTON, TEXAS 77251



ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Jai Daggett, President and CEO
Galleria Chamber of Commerce
4801 Woodway, #300 East
Houston, Texas 77056

Dear Mr. Daggett:

The City of Houston has retained the Tennessee Transportation & Logistics Foundation (TTLF) to conduct a thorough review of the taxicab industry in Houston. Several key issues will be explored during the assessment period. One area that you may be interested in is taxicab services. The review will evaluate service provided by the taxi industry, including an assessment of the current dispatch system market, passenger experience, and passenger/driver safety.

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Sincerely,

A handwritten signature in cursive script that reads "Annise D. Parker".

Annise D. Parker
Mayor

Enclosures

POST OFFICE BOX 1562 • HOUSTON, TEXAS 77251



ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Diane Schenke, President
Greater East End Management District
3211 Harrisburg Blvd.
Houston, Texas 77003

Dear Ms. Schenke:

The City of Houston has retained the Tennessee Transportation & Logistics Foundation (TTLF) to conduct a thorough review of the taxicab industry in Houston. Several key issues will be explored during the assessment period. One area that you may be interested in is taxicab services. The review will evaluate service provided by the taxi industry, including an assessment of the current dispatch system market, passenger experience, and passenger/driver safety.

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Sincerely,

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Annise D. Parker
Mayor

Enclosures

POST OFFICE BOX 1562 • HOUSTON, TEXAS 77251



ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Judith Quesonova, Vice President of Convention Services
Greater Houston Convention and Visitors Bureau
4 Houston Center
1331 Lamar St., #700
Houston, Texas 77002

Dear Ms. Quesonova:

The City of Houston has retained the Tennessee Transportation & Logistics Foundation (TTLF) to conduct a thorough review of the taxicab industry in Houston. Several key issues will be explored during the assessment period. One area that you may be interested in is taxicab services. The review will evaluate service provided by the taxi industry, including an assessment of the current dispatch system market, passenger experience, and passenger/driver safety.

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Annise D. Parker
Mayor

Enclosures

POST OFFICE BOX 1562 • HOUSTON, TEXAS 77251



ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Katic Clark, Executive Director
Greater Houston Restaurants Association
550 Westcott, #380
Houston, Texas 77077

Dear Ms. Clark:

The City of Houston has retained the Tennessee Transportation & Logistics Foundation (TTLF) to conduct a thorough review of the taxicab industry in Houston. Several key issues will be explored during the assessment period. One area that you may be interested in is taxicab services. The review will evaluate service provided by the taxi industry, including an assessment of the current dispatch system market, passenger experience, and passenger/driver safety.

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Annise D. Parker
Mayor

Enclosures

POST OFFICE BOX 1562 • HOUSTON, TEXAS 77251



ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Stephanie Haynes, President
Hotel & Lodging Association of Greater Houston
PO Box 1043
Houston, Texas 77251-1043

Dear Ms. Haynes:

The City of Houston has retained the Tennessee Transportation & Logistics Foundation (TTLF) to conduct a thorough review of the taxicab industry in Houston. Several key issues will be explored during the assessment period. One area that you may be interested in is taxicab services. The review will evaluate service provided by the taxi industry, including an assessment of the current dispatch system market, passenger experience, and passenger/driver safety.

Below is a link to a brief questionnaire, which should only take a moment to complete. We would appreciate your emailing this to your members so they may complete the survey. The response of your membership is vital to the success of this project, so please ask your members to take the time to let us know how they feel. Whether they are completely satisfied with the service they are receiving at your establishment or if you believe that there is a need for improvement, please respond. Their responses will be held in the strictest confidence, so please ask them comment freely.

Survey Monkey Link:

https://www.surveymonkey.com/s/Houston_Hotels

I'd like to offer my personal thanks in advance for your participation in this important review of taxicab service in Houston.

Sincerely,

A handwritten signature in cursive script that reads "Annise D. Parker".

Annise D. Parker
Mayor

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ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Dawn Ulrich, President
Houston First Corporation
1001 Avenida de las Americas
Houston, Texas 77010

Dear Ms. Ulrich:

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ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

President
Lake Houston/Humble Chamber of Commerce
110 West Main Street
Humble, Texas 77338

To whom it may concern:

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ANNISE D. PARKER
MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Reggie Gray, President
North Houston Greenspoint Chamber of Commerce
12700 Northborough #600
Houston, Texas 77067

Dear Mr. Gray:

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MAYOR

OFFICE OF THE MAYOR
CITY OF HOUSTON
TEXAS

June 12, 2013

Robert C. Robbins, M.D., President and CEO
The Texas Medical Center
2450 Holcombe Blvd. #1
Houston, Texas 77021

Dear Dr. Robbins:

The City of Houston has retained the Tennessee Transportation & Logistics Foundation (TTLF) to conduct a thorough review of the taxicab industry in Houston. Several key issues will be explored during the assessment period. One area that you may be interested in is taxicab services. The review will evaluate service provided by the taxi industry, including an assessment of the current dispatch system market, passenger experience, and passenger/driver safety.

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APPENDIX C: HOUSTON SECRET SHOPPER SURVEY TEXT RESPONSES**Q3. Please describe the telephone call. Was the operator friendly?**

1. The operator answered the phone call after 5 second on the 2nd ring. His tone was very kind and patient. He greeted the call with “Good Morning –Humble Taxi –How can I help you?” I informed him of my location and asked if they service this area. He stated they do and asked for a contact number, street address and my destination. He also asked how soon I would need the cab. I informed him I needed a cab-now. He assured me within 15-20 minutes.
2. I called Lone Star and the call was answered in one ring. A friendly female voice asked where I wanted to be picked up. She took my phone number and said she would send someone to pick me up. She thanked me and we hung up. At 6:48PM I received a text saying the call had been dispatched.
3. This cab called me at the end of the ride from my previous destination. I explained to him I had walked down the street and gave him my current location. I called him after I got out of the cab I hailed from the previous stop.
4. I called Yellow Cab and the call was answered in one ring by an automated system. An unfriendly female voice asked where I wanted to be picked up. I gave her an address of 900 block of Texas and she asked, “You don’t know where you are?” I gave her 906 Texas and She took my phone number and said she would send someone to pick me up. She thanked me and we hung up. At 5:21 the cab called and said he was right around the corner. He picked me up at 5:23PM.
5. The call was answered quickly. The operator was friendly. She sounded new and was not sure of the location of the address I was giving her. Once we got the location settled, she said she would have a ride sent. I asked her how long and she answered, "30 minutes or less." She thanked me before we hung up.
6. I called Lone Star and the call was answered in one ring. A friendly female voice asked where I wanted to be picked up. She took my phone number and said she would send someone to pick me up. She thanked me and we hung up. At 1:31pm I received a text saying the call had been dispatched.
7. I called Yellow Cab and the automated system answered in one ring and informed me of the mobile app to hail a cab. This automated message played several times as I was on hold for 5

minutes. A live person finally answered and was friendly. She took my phone number and asked if I had an account. I said I did not have an account. She asked for my location and my destination. She said if I did not have a cab in 15 to 20 minutes, I should call back. Just as we were ending the call she said someone picked up the order and was only a mile away. She thanked me and we hung up. Note: I tried Citi Center Taxi first and they said they had nobody available. I then called Reliant Taxi and I was placed on hold for 5 minutes and then was told they had nobody available.

8. The call was answered on the first ring, but I was on hold for 4 minutes before a live voice answered. The lady who answered was very friendly. She took my name and number and said she would have a cab there in 10 to 15 minutes.

9. Operator answered: "Hello, thanks for called United Cab". She stated her name and then asked how she could help. Operator was polite; when she asked what my zip code was, I wasn't sure so she looked it up for me. She told me that there were 3 yellow cabs in the area, but that if I wanted a United cab I may have to wait a little bit longer. I was instructed to call back if a United cab driver did not call soon.

10. Operator answered with a one word statement that I could not understand, was slightly muffled. Asked her to repeat, but still could not understand. I asked for a taxi pick up, and she quickly asked me the necessary questions. Was pleasant and efficient. Ended the call by saying "Have a nice day."

11. The phone was answered with just hello--no company name so I thought I had not reached a company so I said wrong number and hung up. A man called me right back and asked if I had just called there. I said yes I thought it was Harris Cab and he said it was and asked what he could do for me. I told him I needed a cab from NASA Parkway to the Galleria and he said he could be there within an hour. He was very friendly.

12. The operator was friendly, but seemed as though she was extremely busy and in a hurry to complete the call.

Q6. If your taxi does not arrive within the stated time, please follow up and ask why the vehicle has not arrived. Please describe the experience below.

1. After 20 minutes, I called Humble Taxi. The operator stated the driver will be there in 3 minutes and asked me for my location again and my phone number. He must not have written the number down. I did not receive a follow-up even after 11:45. I called and the recording came on

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several times. I finally was able to leave a message at 11:47 to cancel the cab. The driver-XXXX-called me at 12:20 to ask where I was? I told him I cancelled earlier.

2. I used the app to schedule the pickup ahead of time. I logged on at 12:28 PM and requested a pickup for 12:45 PM. At 12:56, the driver called and did not seem to be able to speak English very well. He said what I think was "See you in a few minutes." At 1:00 PM I received a text from the app saying my cab was less than a mile away. He arrived at the same time, 1:00 PM.

3. Note: I first called Citi Center Cab 5:15PM and the man who answered said there were no cabs that could pick me up. He was nice and recommended I call Yellow Cab; he even gave me the number. I then called Reliant Cab and there was no answer.

4. Note: I first called Fiesta Taxi (1:06) and the lady who answered took my phone number and location and said she would send a cab. I called back twenty minutes later and the same lady answered and said no one had picked up the call. She recommended I call Yellow Cab; she said they were the same company. I decided to call Lone Star (1:29).

5. Note: I first called First called Fiesta from the previous stop before I took a cab that was dropping a passenger off.

6. The cab technically arrived on time, but there was construction going on all over the area, and it was down to one lane of traffic. I saw the cab driver pass up the location he was supposed to pick me up at, and he had a difficult time turning around and making it back to pick me up.

7. There was no estimate of when the taxi would arrive. It was simply stated that they would show up soon. Taxi arrived quickly though.

Q13. What was the description of the driver and what clothing was he/she wearing?

1. The driver showed up at 12:20 just after I had left. I was informed at 11:06 he would be there between 11:26 or 11:31.

2. The driver was a male in his early thirties. He was dressed in jeans and a nice short sleeved shirt. He had a beard and moustache. He was 5'10" to 6'0" tall. He was wearing sunglasses and a knit cap.

3. The driver was a male in his early forties. He was dressed in slacks and a nice short sleeve shirt. He had no facial hair. He was 6'1" to 6'3" tall. He had short black hair and he did not wear glasses.

4. The driver was a male in his late thirties. He was dressed in slacks and a nice short sleeve

dress shirt. He had no facial hair on his chin. He was 5'11" to 6'1" tall. He had short black hair and he did not wear glasses.

5. The driver was a male in his early thirties. He was dressed in torn jeans and an old short sleeve shirt. He had some facial hair on his chin. He was 5'8 to 5'9" tall. He had short black hair and he did not wear glasses

6. The driver was a male in his early forties. He was 5'9" to 5'11" tall. He had a moustache and he wore glasses. He was dressed in a nice button down, short sleeve shirt, and slacks. He looked very professional.

7. The driver was a male in his early fifties. He was dressed in Slacks and a button down shirt. He had no facial hair. He was 5'11" to 6'2" tall. He wore glasses.

8. The driver was a male in his early fifties. During our conversation I discovered he was from Africa. He was dressed in Slacks and a button down shirt. He had no facial hair. He was 5'11" to 6'2" tall. He did not have any hair and he did not wear glasses.

9. The river was in his late twenties. He was wearing a T-shirt, jeans and a baseball cap. His clothes were clean and he looked nice.

10. Driver was male, appeared to be in his late 30's. He wore a polo-type shirt with jeans and loafers. He was dressed very comfortably, but appeared to be clean and presentable.

11. The driver was a middle-aged Hispanic male, wearing a button down sateen red shirt, black jeans and boots.

12. The driver was a middle aged African-American male, wearing a button down short-sleeve shirt with blue stripes, tan linen pants and slip on brown sandals.

13. The driver of the taxi was an older, overweight Caucasian male who was wearing glasses, a white shirt and blue jeans.

14. The driver was a middle eastern man who appeared to be in his 40s or 50s. He was wearing a brown and white polo shirt and blue jeans and he also had glasses.

15. The driver was wearing a black shirt and blue jeans. He was African.

16. XXXX, the driver, was dressed in a blue and white striped shirt with navy blue pants. He had on a cap.

17. XXXX, the driver, was wearing a yellow shirt and black jeans. He was probably in his late twenties and was thin built. He had a small moustache. He was African and has been in

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America several years now.

18. The driver was an African American male in his late 40s or early 50s and he was wearing a red polo shirt and blue jeans.
19. The driver was an older Caucasian male in his 50's or 60's. He was wearing a beige polo shirt and blue jeans.
20. The driver's name was XXXX and he was wearing a solid light grey polo shirt and blue jeans. He was an older, balding Caucasian male.
21. The driver was an older Caucasian male, probably in his 60's. He had gray hair and was wearing a grey striped polo shirt and light blue jeans.
22. The driver was an African American male in his 30's or 40's. He was wearing an orange polo shirt and blue jeans.
23. The driver's name was XXXX, he was a Hispanic male in his late 30's to early 40's, and he was wearing a blue striped polo shirt and blue jeans.
24. The driver's name was XXXX. He was an African American male in his twenties or thirties and was wearing a red polo shirt and blue jeans.
25. The cab driver's name was XXXX, he was an African American male in his thirties. He was wearing a shirt-sleeve brown and white plaid shirt and dark blue jeans.
26. The driver's name was XXXX, and he was an African American male in his thirties. He was wearing a blue plaid button-up shirt and blue jeans.
27. The driver's name was XXXX, and he was an African American male in his late 30's to early 40's. He was wearing a beige linen button-up shirt and beige linen pants.
28. Tall, African American male and he was wearing a white polo shirt and light blue sweat pants.
29. The driver was an average height Hispanic male, late thirties, black hair, wearing black dress slacks and an orange plaid dress shirt.

Q14. Was the taxi clean? Were there any improvements that could be made to the cleanliness of the vehicle?

1. No Show
2. The taxi was clean and had a great smell.
3. The taxi was extremely clean.

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4. The taxi was very clean.
5. The taxi was not clean. There were some small pieces of trash on the floor and dust on the console and seats. The windows also needed to be cleaned.
6. The taxi was very clean. There was no trash or debris. There were no stains on the seats or floor mats. The windows were also clean.
7. The taxi was clean.
8. Yes. The vehicle was very clean.
9. The taxi was free of debris, but had many stains on the floor and seats. The windows were also dirty.
10. Taxi was very clean, smelled fresh. On the exterior of the taxi (the back right bumper) there were large patches of paint missing and it did appear to be scuffed up pretty bad.
11. The taxi was very clean, inside and out. There was a slight musty smell that was not very pleasant. Perhaps air fresheners would be helpful.
12. The van was very clean inside. Appeared to be freshly vacuumed, and smelled fresh. The only things I noticed that could use improvement: there was an almost empty water bottle in the back of the driver's side seat, probably from the last passenger. The driver should perhaps check the vehicle before each pick-up. There were newspaper and plastic bags on the front passenger seat. If these belonged to the driver, a suggestion would be to place these items under the seat or out of sight of others.
13. The taxi appeared to be pretty clean inside, but it did smell like cigarette smoke inside.
14. The taxi was a newer model minivan and it was very clean inside and smelled good too. I did not see any room for improvement with the cleanliness of this taxi.
15. The cab was very clean. I did not see any areas needed for improvement.
16. Yes the cab was very clean. I could not see where it needed any improvements.
17. Yes, the cab was very clean. I did not observe it needing any improvements.
18. The taxi appeared to be a brand new minivan taxi. It looked and smelled like a brand new car once I got in. I did not see any improvements that could be made to the cleanliness of the taxi.
19. The taxi was very clean and smelled like air freshener, but not too strong. I did not see anything that could be improved upon in regards to cleanliness of the vehicle.

20. The taxi itself was a new minivan and was very clean inside. However, the driver smoked cigarettes the entire trip which made the smell inside the cab unbearable.
21. The taxi was clean on the inside, however, the driver chain smoked cigarettes the entire trip. The smell was horrible and it was so strong I assumed he had been smoking in the taxi all morning. The only other thing I saw that could be improved upon regarding the cleanliness of the taxi was that the headliner was stained black in several spots.
22. The taxi was a newer model smaller SUV. It was clean inside and smelled good as well. I did not notice anything that needed to be improved upon in regards to cleanliness.
23. The taxi appeared to be a very new minivan. It was extremely clean inside and smelled like a new vehicle. I didn't see anything that could be done to make it any cleaner.
24. The taxi that I rode in was very clean and appeared to be a newer model Dodge minivan. It smelled very good and I did not see room for any improvements to be made to the cleanliness of the taxi.
25. The taxi appeared to be very new. It was very clean and smelled good. I did not see any room for improvement in the taxi's cleanliness.
26. The taxi was very dirty and appeared to be very old. It made loud noises the whole trip and did not seem to be in very good operating condition. The headliner was also sagging in several places.
27. The taxi was very clean and smelled strongly of baby powder scented air freshener. I did not see any issues with cleanliness in the taxi.
28. The taxi was very clean and appeared to be a new model minivan. I didn't notice anything that could be improved upon, it was a very clean vehicle.
29. The taxi was very clean inside and out, and it smelled like cherry air freshener.

Q15. Please describe your experience in getting your ride. If you accessed your ride by phone, describe the dispatch experience. If you accessed your ride by internet or smartphone app, describe the user interface and whether you received any confirmations or follow-up; if you accessed your ride at a taxi stand or by hailing, describe how the driver approached you.

1. My experience in getting a ride was very disturbing. I called 2 small companies prior to getting a Humble Taxi to agree to pick me up. I waited until 11:58 for a cab that should have arrived between 11:26-11:31. Because of the lack of response and being hung up on I left a message after it had been almost an hour to cancel. I accessed the taxis via my smartphone by

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looking under Kingwood Taxi and Limo site and the Yellow pages. No follow-up was provided via online access.

2. The process of getting the Lone Star Cab was very smooth. The cab arrived before the estimated time. The initial phone call went smoothly and I loved the fact I received a text informing me the taxi had been dispatched.

3. The process of getting the Fiesta cab was not easy, but he did show up. The cab arrived at the previous destination as I was pulling into the next destination. He immediately came and picked me up down the street. He greeted me with a great big smile and was very friendly. He joked he was looking for me and was not upset in any way.

4. I called Citi Center cab again (5:36PM) and he was friendly but again stated he had no cabs available. He again asked if I would like yellow cabs number. I told him I had it. I then called Independent Cab (5:37PM) and a man answered within one ring. He asked for my location and I gave it to him. He then asked for my destination. I gave him my destination and he repeated the address back to me like I was crazy for calling a cab. He said he would have a cab there in 30 minutes. I could tell by his voice that he was not going to dispatch a cab so I called Fiesta Taxi. A friendly voice answered and told me he did not have any close would I like for him to contact Yellow Cab I said, "No." He said he would try to get someone there quickly. He called me back at 5:51PM and asked if I still needed a cab and I said, "Yes." I waited for 15minutes and a cab pulled into the parking lot. I asked if Fiesta had sent him and he said he was dropping off but would give me a ride, so I agreed. This was Texans City Cab. The process of getting a ride was very discouraging so that is why I finally just took the cab that was dropping off where I was waiting for one of the cabs I called.

5. The process of getting the Yellow Cab was very smooth. The cab arrived before the estimated time. The initial phone call went smoothly even though the lady who answered the phone was not friendly at first. She did thank me.

6. I called dispatch and was greeted by a welcoming and friendly voice. The cab was dispatched and arrived in under half the estimated time. The driver said, "Hello and how is your day going?" He was very personable and we conversed the entire trip. He was extremely knowledgeable of the area. He even cut approximately 10 minutes and \$4.00 off the time and cost of the ride. He was very funny and appreciative. He said Thank You with the same big smile

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he gave at the initial greeting. A great experience.

7. The process of getting the Lone Star Cab was very smooth. The cab arrived before the estimated time. The initial phone call went smoothly and I liked the fact I received a text informing me the taxi had been dispatched. Especially after I had waited over thirty minutes for Fiesta Taxi.

8. The hold time was excessive, but once a live person was on the phone it was a quick and friendly conversation. I felt my business was appreciated. The smaller companies I called were not available, so Yellow Cab was the third company I called, but they were efficient.

9. The dispatcher was very friendly and efficient. She asked for my location and said a ride would be there in 10 to 15 minutes. She was sweet and thanked me for calling.

10. Dispatcher was friendly, and driver arrives promptly. He immediately jumped out, placed my luggage in the back and then guided me to the right side of the van where he then opened the door for me and closed it for me after I entered the van.

11. When the taxi arrived, I walked up to the rear of the vehicle and waiting for it to be opened so that I could place my luggage inside. The driver did not get out of the taxi. I noticed that he was holding open the sliding door a few inches (from the driver's seat, he had reached back to slightly open it) and was waiting for me to grab the door handle and open completely. I had to place my luggage inside, which was a little bit inconvenient since the bag was rolling around a bit during the trip. I enthusiastically said "hello!" and driver responded with a muffled greeting.

12. I accessed my ride at a taxi-stand, so I was ushered into the vehicle by the stand attendant. The driver did not exit his vehicle, but instead electronically opened the side sliding door and the rear door and waited for me to put my things inside, jump in, and close the door myself. As a paying customer, I would expect the driver to hop out and assist me... so that is one definite area for improvement.

13. After leaving Discovery Green park, we tried to hail a cab on the street corner, but nobody would stop for us so we walked a block away where the cabs are lined up near the Four Seasons. We got in the backseat of the last cab in line and the driver looked at us like we were crazy and told us to get out that these cabs were only for the hotel guests. We got out and tried the next cab and he refused to take us because of the short distance. I was really frustrated at this

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point so we walked a block away to the hotel and asked a bellman at the taxi stand to please hail a cab for us. The cab that arrived was one of the ones from the taxi line and he complained the entire trip that it was not fair that he was "stuck with us" since we were a short trip.

14. My friend and I were standing on the street corner at 611 Walker and saw a few cabs driving towards us. I raised my right hand in the air and signaled for a cab to pull over to the curb. A brown minivan taxi labeled Meski Cab pulled over and we got in the taxi.

15. The doorman at the Westin Hotel at the Galleria hailed the taxi cab for me.

16. Since I had not known when I would arrive at the Hilton I had not contacted a cab in advance. When I called Harris Cab they at first answered with just hello so I thought I had a wrong number. He explained it would take a while since it was so far out.

17. I went to the booth at the airport and asked the lady there to hail a cab for me so she called someone at another section of the airport and told them to send a cab to where we were located. She also gave me a brochure that had numerous taxi cab numbers which was very helpful. Twin Cab was there to pick me up within just a few minutes.

18. I parked my car at Hobby Airport and made my way to the ground transportation area, and walked up to the taxi booth. There were several cabs all lined up, the next one in line pulled forward and I got in. The whole process was much simpler than my other taxi trips where I've either booked using an app on my phone or called and been left on hold for extended periods of time.

19. I booked my ride using the hail a cab app for iPhone. It is very simple to understand and quick and easy to use. I entered my pickup and drop-off locations and requested an immediate pickup. I received a message on the app when a driver accepted my ride. I also received an automated text and phone call when the driver was less than a mile away. I also received a phone call from the driver when he was around the corner to confirm the exact pickup location.

20. I booked my ride using the www.taximagic.com website. The process was quite easy and very fast. I entered my pickup and drop-off locations and requested an immediate pickup. It then let me enter my credit card information online, so it would be quicker to pay at my destination. I received a text message when the driver was 2.5 miles away and an automated call as the driver approached the pickup location.

21. I used the hail a cab app for iPhone. It is extremely easy to use and very effective. I

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entered my pickup and drop-off locations and it asked if I would like an immediate pickup or to schedule it for a later time. I received a message when a driver accepted my ride and another message on the app when the taxi was less than a mile away. I also received an automated call when the driver was about to pull up to the pickup location.

22. I used the website www.ridecharge.com to book this trip. It was quick and easy. The website asked for my pickup and drop-off locations and what time I would like to travel. It also let me enter my credit card information so I would be able to quickly pay by credit card when I arrived at my destination.

23. I logged onto www.taximagic.com. The site was very easy to use and only asked a few, simple questions. It asked pickup and drop-off locations, as well as the time you wanted service. It also let you enter credit card information, so you could pay at the end of your ride with the card you submitted online, or by sending a text reply to an automated text the site sent you at the time of booking. Once my ride was booked, I received a text one minute later letting me know the driver was 2.9 miles away from me.

24. Originally, I called Yellow Cab of Houston on their main phone line, 713-236-1111. I was on hold for about fifteen minutes listening to hold music and recorded advertisements all that time before I gave up, because no operator had ever come on the line. I then decided to book my ride using the Hail a Cab app for iPhone. The app is simple to use and only asks a few questions about pickup and destination locations and what time you would like to travel. I booked a trip and received a text when a driver accepted my trip. As I was waiting for the taxi to arrive, I received another text saying my trip had inexplicably been cancelled. I logged back on to the app at 12:56 and had a new trip scheduled and accepted by a driver.

25. I called Yellow Cab of Houston at 12:09 PM. For four minutes, I listened to hold music and recorded advertisements repeatedly. At 12:13 PM I reached a live operator, who asked my pickup location and name. I asked her an estimated pickup time and she said, "If nobody is there in 15-20 minutes, just call us back." At 12:21, the driver called and said his name was XXXX and that he would be there within seven minutes.

26. I used the Hail a Cab app for iPhone which is very convenient and easy to use. It is a step by step process which only asks a few questions. It also sends a text when your ride is assigned to a driver and then again when the taxi is less than a mile away from picking you up.

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27. I booked my ride through the Hail a Cab app for iPhone. It is a very easy to use app. The interface is simple to understand and is a step by step process. It asks for your pickup and drop-off spots and when you would like to travel. It then sends a text both when your ride is assigned to a driver and then again when the taxi is less than a mile away from you.
28. The website was very quick and easy to understand. I liked that it both emailed and sent a text to let me know my ride was assigned to a driver and an estimated pickup time.
29. I used the Hail a Cab app, and it was very simple to use and understand. I entered my pickup spot and destination and then selected whether I wanted to be picked up immediately or at a later time. Once a driver had accepted my route, I received a message indicating that. On the map feature of the app, it showed a moving GPS target which was the driver and every two or three minutes, it would update me and show me where the cab was. When the cab was less than a mile away, it sent me a message and let me know to be ready because my cab was approaching.

Q16. Did the driver know the way to your destination?

1. N/A due to the ride being a “No Show”
2. The driver did not know the destination, but while we were stopped at a red light he called and asked for directions. He informed me he had only been driving in Houston for 30 days.
3. Asked for address.
4. Yes, the driver did ask me if I knew the quickest way to get to Discovery Green which surprised me since it is a popular downtown destination.
5. I had to help him even though he was using a gps.
6. Yes, the driver asked me for directions. I gave him some general directions, but I did not know exact directions, so he just headed in the general direction of where I needed to go.
7. Either the driver did not know the way to my destination, or he just wanted to take a longer route. He entered the address into the cab's GPS unit, and followed the directions it gave. However, the length of time as well as route and fare were larger than the same trip earlier that morning.
8. Yes, and I replied that I did not know directions for my destination.
9. He asked me if he should get on the freeway, and I said yes because it the most direct/quickest route.

Q17. Was the driver talking on the phone or texting at any point during your trip? If yes,

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please explain.

1. The driver did call for directions while we were stopped at a red light. He immediately hung up once we began moving.
2. The driver did answer one call during the trip. He answered the call without a hands free device. He talked on this one call for the majority of the 12 minute cab ride.
3. The driver did answer one call during the trip. He answered the call without a hands-free device
4. Did receive a phone call during the trip, which he answered. He told the person on the line that he would call them back later, and he promptly hung up.
5. The driver answered one personal phone call and talked for several minutes before hanging up. He also made one call that did not seem to be a business call.
6. He called the taxi company dispatcher, because his meter was not working and asked for a fare estimate for my ride.
7. He appeared to send a text at one point while driving, and he also plugged in his phone and used it to play music through the taxi's stereo system. He played some type of ethnic music extremely loud which was basically drums and some type of chanting.

Q20. Did the driver accept credit cards? If you paid the driver directly, what did the driver say when you asked to pay by credit card? What method did the driver use to process your credit card?

NA	The shop was a "No Show" He finally called after I had given up and left the location
No	I asked the driver if he accepted credit cards and he said, "What? You don't have any cash?" I told him I would pay with cash. I did not pay with credit card. I paid with cash and the driver explained to me if I was going to the airport then a credit card would be ok, but the cab company takes 5% to 7% on credit card transactions and just can't afford to take them on short trip
No	He did not know how to do a credit card. He did not have any way to swipe it. He did not seem to understand when I asked for a receipt. He got all flustered. I don't think he had been driving very long. I paid in cash and he gave me a blank receipt that would have been used for a credit card.
No	When I asked to pay by credit card, he said his machine was not working, just as he had said the meter was not working.
No	When I asked if the taxi accepted credit cards, he seemed upset and said "Cash, please."
No	When I asked to pay with my credit card, he said, "No, if you have cash, that's fine."
Yes	I asked the driver if he accepted credit cards and he said, "Yes" without hesitation. I told him I would pay with cash. I did not pay with credit card. I paid with cash.
Yes	I asked the driver if he accepted credit cards and he said, "Yes," without any hesitation. I did not pay with credit card.
Yes	I asked the driver if he accepted credit cards and he said, "Yes, but cash would be better since such a short ride." He was very nice about it and I told him I would pay cash.
Yes	I asked the driver if he accepted credit cards and he said, "Yes." He had no hesitation or change of demeanor when I asked him if he accepted credit cards.

Yes	I asked the driver if he accepted credit cards and he said, "Yes" with some hesitation. I told him I would pay with cash. I did not pay with credit card. I paid with cash and it was not because of the hesitation in his voice.
Yes	The driver said he accepted credit cards but the company took 6% and it was always better to get cash. He was nice about the answer.
Yes	He gladly accepted my credit card and used an electronic device to authorize trip fee plus tip.
Yes	Driver stated that he did accept credit cards, but that he was a new driver and had only used the machine 3 times so it would take him a little longer to get through it. He did it perfectly though, no problems.
Yes	Driver said that he did accept credit cards. There was an electronic credit card machine on the back of the front passenger seat. I was instructed to pay that way and punch in a tip amount on the machine as well.
Yes	I asked the driver if they accepted credit cards for the fare, and he said yes. However, since he was very angry the entire trip, I just paid cash to get out of the taxi as quick as possible,
Yes	I asked if they accepted credit cards and he said yes, but they prefer to deal with cash only, so I paid with cash.
Yes	When I asked if I could pay with a credit card he said no problem.
Yes	When I asked him if he accepts credit cards he said yes. Then he told me to swipe my card through the TaxiMagic that was conveniently located on the back of the front seat.
Yes	When I asked the driver if they accepted credit cards, he said yes but he would prefer if I paid cash because it was easier for him, so I paid cash for my fare.
Yes	When I asked the driver if they accepted credit cards, he replied, "Yes, we do." I did not pay by credit card; however, I paid with cash.
Yes	I paid my fare by using the touchscreen mounted on the back of the front passenger seat. I just had to swipe my credit card and select a tip amount. The driver then printed a receipt and handed it to me.
Yes	When I asked if they accepted credit cards, he said, "Yes, we sure do." I then realized I left my card in my car, so I ended up paying cash for my fare.
Yes	I did not have to ask about using a credit card, because the website had already sent my credit card directly to the taxi. At the end of my trip, I just swiped my card on the touchscreen unit and the driver handed me my receipt.
Yes	I did not have to ask the driver; because the website let you enter your credit card online. All I had to do in the taxi was swipe my card on a touchscreen unit mounted on the back of the passenger seat. It then asked me to confirm the fare and choose a tip amount. Once I did this, a receipt printed up front and the driver handed it to me and said, "Thank you."
Yes	When I asked if they accepted credit cards as payment, he said, "Yes, but I have to get the credit card machine out and all that. Do you have cash?" I then paid my fare with cash.
Yes	I asked the driver if they accepted credit cards, and he said, "Yes, we sure do." I chose to pay by cash instead and he was still able to print me a receipt. He has been the only driver so far to print me out an actual receipt for my fare.
Yes	The cab had a touchscreen video screen mounted on the back of the passenger seat where it showed my fare info. The driver instructed me to approve the amount, add a tip if I wanted to, and swipe my credit card. Once I did that, a receipt printed up front and he handed it to me and thanked me.

Q22. Overall, how was the service? Please describe your trip in detail (Please include your conversation during the ride, and the greeting and parting comments from the driver).

1. My overall service experience with Kingwood/Houston Taxi's was awful. I feel the taxies do not want to service the suburb or rural areas. Houston is large, and most people own cars. I feel the taxi's business does not want to make a "short run" and they do not value short hauls. I called a total of 4 small companies (Humble Taxi, 7 Day, Airport cab and A Bhagat

Taxi). Only one was available and this company came almost an hour later than I was promised. Yellow cab stated they could not even give me an “estimate on arrival time pick-up.” Lone Star stated 1-2 hour wait

2. The driver was very friendly. He was personable and we talked through the entire duration of the ride. He was intelligent and well spoken. He greeted me with a smile and he thanked me at the end of the trip. He added, “Have a blessed day.”
3. The driver was probably the friendliest taxi driver I have ever met. He was smiling and talking the entire trip. He informed me he was from Columbia. He was dressed well and very personable. He shook my hand and thanked me as I exited the vehicle.
4. The driver was very friendly. We had a conversation throughout a lot of the ride. There was a great deal of traffic and we were sitting still a great deal. I asked for a receipt and he asked if I wanted it blank. I asked him to fill it out, and I had him correct it to include his tip. He thanked me and asked me to have a nice day in a genuine manner.
5. The driver was friendly after we ended the credit card discussion. He said, “Hello when I entered the cab, and he said, “Thank You” when I exited the cab. He did not offer conversation, but responded to me when I asked him questions. He spoke on his phone most of the ride. The driver was very sure of the directions. The paying process was easy and he gave me a receipt. He was one of the two cab drivers that offered me a blank receipt, but I asked him to fill it out.
6. The service was excellent. The driver had a great personality. We conversed the entire trip. He drove very well. He slowed in school zones and respected the drivers around him. He greeted me warmly and I felt appreciated as a customer.
7. The driver was friendly. He did not offer conversation, but responded to me when I asked him questions. The driver was very sure of the directions and when we got into traffic he did some quick speeding up and then hard braking (his driving was a little rough but I was not scared.) The paying process was easy and he easily printed my receipt
8. The driver was friendly. He did not offer conversation, but responded to me when I asked him questions. He asked me where I was from and I did likewise. He was not sure of the address at first, but then realized where I was going and he knew the way to the destination. The paying process was easy and he did not mind if I paid with a credit card.
9. The driver greeted me with a smile. He was very conversational during the trip. He knew

the area well and he drove cautiously while maintaining a good speed. He filled out a receipt for me and he thanked me for my business.

10. Overall, this was perfect service. The driver was VERY friendly. He asked me where I was from; we talked about the weather, his country, families, the hurricane, schools, news etc. Many random topics. He was very kind and courteous. He did mention that he didn't really love his job though, and while that may be true - a suggestion would be to not tell that to customers. All in all though, great job!

11. I told driver the address of my destination, and he did ask if I had been there before. He plugged in the address into a GPS application on his smartphone. I asked if the monitor on his dashboard also served as a GPS and he said YES, but that it didn't work so he had to use his phone. He also said that the phone is more reliable. He held the phone in one hand, and drove with the other hand for the entire trip. This could be a little dangerous. Later in the trip, the driver did ask if I was from here - I responded that I was just visiting and that I used to live here. He also mentioned that sometimes if he's not sure if he's driving in the right direction, he'll call dispatch for a trip time estimate so he can compare it to his GPS estimate. Driver was very friendly upon drop-off.

12. When I entered the taxi and greeted the driver, he did not speak or smile. He also did not attempt to converse with me, which would be perfectly fine as long as he had offered a friendly greeting from the start. Cell phone rang continuously 3 different times, without being silenced. Driver did not answer the phone though. Would suggest having volume lowered or at least silencing when it rings. Although he didn't get out of the taxi when he first picked me up, he did get out to help with luggage when dropping me off at my destination. The driver was efficient, and arrived quickly but safely. Asked me if I preferred for him to take the HOV lane or regular streets since there are times when accidents are blocking the HOV lane. I asked him to take HOV anyways, and he accommodated my request.

13. The driver was extremely upset from the moment he saw us, because he witnessed us being refused service by two other cabs in the taxi line. He did not want to take us and said it was not fair that the other drivers got to pick and choose their fares. The bellman from the hotel held open the door and told us to get in, so we did. The driver asked where we were going and drove away still complaining about the short trip and how he only liked to do "airport runs." I

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asked him wouldn't it be easier to stay downtown and do several short trips instead of sitting in traffic to either of the airports? We arrived at our destination and he said "Thanks guys" as we exited the taxi. I only tipped him more than I normally would because I felt bad that he was so upset about the whole situation.

14. The service was ok; the driver was not rude but not overly friendly. He did not seem too thrilled that we were going such a short distance, but he did let us know once we got in about the "Six in the City" flat rate for trips downtown. When we got in, he smiled and said, "Where are you going?" as we drove away from the curb, he did ask me how to get to Discovery Green. He dropped us off right at the edge of the park near the Four Seasons hotel. I asked for a receipt and he handed me a blank one and said "Thank you, have a good night."

15. I was not as pleased with this cab. It was Compass Town car. He did not get out of the car either time. He did not talk to me even though I tried several times. He got very flustered when I tried to pay.

16. My trip with XXXX, the driver for Harris Cab, was very enjoyable. He was very easy to talk to and we carried on several conversations. I told him about my 14 grandchildren and 2 great grandchildren. He told me about the four children he has put through college and how proud he is of them. He also told me he is an American citizen now. He also said they own a store at Hillcroft and 59. When he got to the Hilton he got out of the car and helped me in. When we got to the Galleria he got out and helped me out. He asked me to call him when I was ready to leave the Galleria.

17. When XXXX, the driver, pulled up at the airport taxi area he got out of the car and came around to get my small bag and open the door for me. He asked me how I was doing this morning and where I wanted to go. I told him 3000 NASA Parkway to Houston Hilton and he said ok. He set the address in his gps and we left. During the hour that it took to get there we talked about many subjects. I told him I was going to a family reunion. He told me about his year old twins. We talked about my 14 grandchildren and 2 great grandchildren and how important family is. He was very pleasant and very easy to carry on conversation with. When we got to the Hilton we talked about the lake and how pretty it was. He got out of the car and came around to let me out and carried my small bag up for me. He gave me his business card and asked me to call him if I needed a cab back to the airport when I go home. We said goodbye and have a nice

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day and he left.

18. When I got in the cab, the driver said, "Hi, how are you this morning? Where are you headed?" I told him I was going to Shell Plaza downtown and we pulled away from the curb. We really did not speak much at all the remainder of the trip except for a few comments about the traffic. When we got close to the destination he asked me where exactly I would like to be dropped off. After we arrived at Shell Plaza and he told me the fare amount, I paid him and asked for a receipt. He gave me a blank receipt and as he turned around and handed it to me, he said, "Thanks, you have a good day today." I thanked him for the ride and exited the taxi.

19. When I entered the cab, the driver smiled and said, "Are you XXXX? How are you?" He knew exactly how to get to my destination and drove safely throughout the trip. The cab was clean and the driver kept the radio down at a low volume. We discussed the weather and how hot it was getting to be, even at night. When we arrived at the destination, I paid my fare and asked for a receipt and he gave me a blank receipt off of a pad of receipts he had. As I exited the cab, he said, "Have a good night."

20. As I entered the cab, I was met with the overwhelming smell of cigarette smoke as this driver was smoking cigarettes just like the driver in the taxi I used earlier in the morning. He said, "Hey, do you know if I can go down Fulton, I don't usually work around here and I know there's a lot of construction." He smoked cigarettes the entire time he drove and turned the radio to an all sports channel and played sports talk radio very loud. He sighed when I told him my destination. He said the dispatcher had not informed him, even though I entered it on the website. He seemed to be upset by the short distance. We talked about the heat outside and the light rail construction as we drove, but did not talk about anything else as it was a quick trip. When we arrived at the destination and I paid the fare, he said, "Thank you sir, have a good day," as I exited the vehicle.

21. When I entered the taxi, the smell of cigarette smoke was overwhelming. The driver was smoking and continued to do so throughout the trip. He said, "Hi, how's your day?" As we pulled away, he asked if he could drive down Fulton Street as he hated to get on freeways. As we drove, he complained about city employees and how lazy he thought they were and then went on a very long rant about President Obama and "Obamacare." As we pulled up to my destination, he ended his rant by calling the president a racial slur which totally blew my mind. I

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honestly did not know what to say, I handed him my payment, and asked for a receipt. He handed me one and said, "Have a good one" as I exited the taxi.

22. When I entered the cab, the driver said, "Hi, how are you?" and then asked me if I knew how to get to my destination. I gave him some general directions because that was all I knew. He drove very aggressively and talked on the phone twice while driving. He also complained about other drivers, the city planners for the city of Houston and shared his views on how insane the light rail system was. He talked for several minutes about fatality light rail/pedestrian accidents which I found to be a strange conversation topic; he ranted for a while about Governor Perry and Texas politics in general. I did not respond much or say very much to him. He then asked me at one point how long I had lived in Texas and asked if I liked it here. I let him know that my family is actually in Texas history books, because my ancestors were part of the "Old Three Hundred" who were the first people to settle Texas with Stephen F. Austin. After I told him this, he did not say very much until we got somewhat close to the destination, he never called dispatch or tried to GPS correct directions, he just followed his "hunch" and headed the route he believed to be correct. After we arrived, I swiped my card and he handed me my receipt and said "Thanks man, have a good one."

23. Overall, the service was average. The taxi arrived on time and it was easy to book. The cab was clean and the driver drove safely. When I entered the cab, the driver said, "Hi there, do you know where you're going?" I told him my destination and he entered it into the GPS and began to drive. He did not speak the rest of the trip. I felt like he should know the route to the destination as it was only about two miles away. The trip was longer than the same trip I took earlier that morning. When we arrived at the destination, I paid the fare on the touchscreen in the backseat. He handed me my receipt after it printed and said, "Thank you, sir" as I exited the vehicle.

24. When I first entered the cab, the driver said, "Hey, how are you?" I replied that I was doing fine and sat back in my seat. He began driving as if he were exiting the parking lot, then he slowed the taxi to a stop. He turned back to me and said, "It's your money, I can drive around town all day, or you can tell me where you are going." I was really surprised by this and said any other time I have booked with the Hail a Cab app; the driver already has my destination. He said, "Sometimes they do, sometimes they don't." I told him I was going to LBJ hospital and he

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began to drive again. The trip was extremely short and we didn't speak again until we arrived at the hospital. After I paid my fare with cash and asked for a receipt, he printed me a complete receipt. As I exited the taxi, he said, "Have a good one."

25. The service for this taxi ride was excellent. It was definitely the best ride I have taken so far with this secret shop project. The driver was friendly, polite, and knew the best route to take without asking me for directions. He also did not take a longer route to make more money from me. When I first entered the cab, he smiled and said, "Hi, how's your day going so far?" As we drove, we discussed it being his son's birthday and the fact that there is always traffic near the Galleria no matter what time of day. He was an attentive driver and did not drive aggressively. When we reached my destination, which was Texas Women's Hospital, he asked me which entrance I needed and dropped me off at the front door. As I exited the taxi, he said, "Thank you sir, I hope you have a nice rest of your day."

26. When the driver picked me up, he did not greet me, he asked me for directions to my destination as soon as I entered the cab. The cab was very old and dirty, and did not smell good at all. The headliner was sagging in several places. He called the taxi company dispatch and asked for a fare estimate for my ride which was \$12.00. He then told me his meter was not working. He had driven about five blocks when he announced, "We need to make a U-turn." He turned around and headed in the opposite direction. He drove very aggressively throughout my trip and while he did not make conversation with me most of the trip, he mumbled to himself about other drivers on the road. At one red light, he told me we almost got killed by an elderly driver in the lane next to us. When we arrived at my destination, he told me the credit card machine was broken when I asked to pay by card. I handed him \$15.00 to pay my fare, and he replied, "I just started my shift and don't have any change." So he kept my \$15.00 for a fare of only \$12.00. I asked for a receipt and he handed me two blank receipts without signing them or filling them out. He then said, "Thank you, enjoy your shopping." as I exited the taxi.

27. The trip was a bit scary. The driver asked "How is your day going?" when I entered the taxi. He then pulled away from the curb very quickly and continued to drive very aggressively for the remainder of my ride. At a red light we came to, he rolled down the passenger side window, and screamed very loudly towards three Hispanic men on the sidewalk, "The police are coming!" He then rolled up the window and laughed very loudly for several seconds. He played

some type of ethnic chanting music at a loud volume the rest of the trip. I asked for a receipt when we arrived at my destination and he tore a blank one off of a pad of receipts and did not even sign his name or put down his cab number. I thanked him and he said, "Have a good day."

28. The trip was quick and efficient, I felt the driver knew the area well and he didn't ask me for directions anywhere. When I got in the cab, he said, "Hi, how are you?" and we discussed the construction taking place in the area as we drove. We also discussed how busy he usually is when he works on Saturday nights. It was a short drive, so we did not discuss anything else. When we arrived at the destination, he said, "Thank you, have a good night."

29. Overall, the service was acceptable, but not great. I didn't feel that the wait was too long, because the app did not give me an arrival estimate, so I couldn't judge whether he was late or not. When I first got in the cab, he said, "Hi, how's your day going?" As we pulled away, he first asked me about getting on the freeway and I told him that he should. Then we talked about the weather because it had started raining. We didn't speak after that as it was a short trip. As we arrived at my destination, I asked about paying with my credit card and he said, "No, if you have cash, that's fine." The fare was \$11.35, I gave him \$15 in cash and he said, "Thank you, have a good day." He did not make a move to make change for me at all. I asked for a receipt and he tore one off a pad of receipts he had. He wrote his cab number 169 on it, and signed his name but it was illegible. I got out of the cab and thanked him and he drove away.

APPENDIX D: HISTORY OF TAXICAB REGULATIONS

1. Introduction

The history of the taxicab regulation is significant to its current form. Taxi service is the first readily identifiable form of public transport, first licensed in the UK in the 17th Century, and continuing to operate under legislation dating from 1847. Moreover, as the form of licensing has evolved only slowly, in part due to the mature and instantly recognizable nature of the industry, the historical legacies impact significantly on the current supply and potential future development of the industry. Regulations, the legislation impacting on the supply of taxis, have emerged as a result of the history of the taxicab and are commonly applied to the numbers of vehicles licensed (quantity control), to vehicle and operator fitness standards (quality control) and to their fares (economic control), collectively as QQE.

Both US and UK authorities widely apply regulation of taxis, with similar approaches adopted elsewhere. UK taxi regulations apply, following a similar approach to that in the US, to cities and local authority areas defined as licensing authorities and follow the same guiding principles – protecting the public interest. Taxis within the UK and in the United States operate as a transferred matter, an area of legislated business passed from the state or regional government to local governments.

2. Early Regulations

The early regulation of local taxicab services in North America followed the general format of transportation regulation set out in the 1874 U.S. regulation of railroads, known as the “Interstate Commerce Act” (to be applied by an Interstate Commerce Commission - ICC). Historians generally agree that the Act to regulate railroads came about mainly due to excessive abuses of enormous power these railroad executives held over farmers and manufacturers. By setting rates on their railroads, these early corporate heads could favor one area or one manufacturer over another, thereby negatively affecting their ability to compete in the marketplace. It was the early movement of farmers who passed state laws, referred to as the

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Granger Laws, against the railroads that convinced federal government officials to step in and declare that setting of rail rates which moved products from state to state to be the rightful affair of the federal government.

Eventually, additions to the initial ICC legislation gave the federal government the right, through regulation, to control the entry, exit, rate making, and financial dealings of U.S. railroads. Motor carriers were added as Part II of this act in 1935. In general this legislation gave the federal government in the U.S. the right to regulate “interstate commerce” and the companies that moved products that were considered to be interstate movements – i.e., moving products from one state to another. In order to regulate these movements, the Interstate Commerce Commission (ICC) was created to regulate entry through “certificates of convenience and necessity”, set rates on movements through rate hearings, and administer to the overall financial health of the industry.

During the Great Depression years, state governments became concerned about transportation territorial disputes among taxi companies. Local taxi companies, which had grown considerably since being introduced to almost all major U.S. cities in the 1920s, were experiencing labor disputes and bandit cabs that proliferated during these stressful financial times. These disputes disrupted local commerce and often spilled over into violence. “Bandit” cabs operating outside regulation, including those offering black market (illegal) and grey-market (of uncertain legality) could undercut legal operators because of their lower levels of insurance (if any) and lower standards of vehicles. Taxi protests also became a popular way for taxi drivers to express their concerns.

New York City, for example, in 1934 experienced what some consider one of the largest labor strikes in history in 1934 when more than 2,000 taxi drivers occupied Times Square in protest of their conditions. As a result, New York City passed the Hass Act of 1937, setting up a taxi medallion system that remains largely in place today. Taxi driver protests remain a method of expressing concerns over licensing choices, including recent protests in Belfast (2006) and Dublin (2009), the latter protesting about the numbers of licenses being issued, and seen by the taxi drivers as excessive.

Most state legislatures during this time followed the lead of the federal government, and they dropped the laissez-faire approach to business in general, and transportation specifically, in

favor of regulated monopolies. Thus, most states passed some form of intrastate transportation regulation that often included local taxi service or, in the case of some major cities such as New York, provided for these cities to regulate intra-city or local taxi operations.

2.1 State Regulation

Similar to the federal level ICC mentioned above, these state laws created Public Service Commissions, or similarly named authorities, to regulate intrastate transportation. In many states, this also included the regulation of local taxi services although the typical taxi company served mainly one city or provided the authority for cities to set up their own taxi regulatory schemes. These regulatory bodies were granted the same powers over intrastate and local movements as their counterpart at the federal level - the ICC.

From the late 1930's through the 1960's the majority of these regulated transportation firms at the federal, state, and local levels enjoyed the benefits of being regulated monopolies, duopolies or, in the case of taxi companies, a small oligopoly of only a few firms with the appropriate certificates of convenience and necessity. Many cities existed for four or more decades with the same number of taxi firms and taxi permits even though population, automobile ownership, travel patterns, and taxi usage may have changed considerably – both positively and negatively for taxi demand.

During the depression years, U.S. governments at the federal, state, and local levels were concerned about removing the street level competition for transportation services. By permitting only a few financially capable providers in each market to provide service, it was felt that stability and long term growth of both these firms and the general economy would prevail. With the evolution of unionized labor in most of the U.S. transportation industry, it was also felt that there was a balance of power between labor, management, and capital - that profits from these regulated companies would be dispersed to labor, management, and investors in a fair and equitable manner.

By setting rates that provided for the cost of operations plus a profit that was usually slightly more than the cost of borrowing money, it was also felt by transportation regulators that the interests of the public were being served through the lowest possible rates or fares. Thus, the “implicit compact” between the regulated company and its regulators was forged. This compact

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was that if you (the company) are willing to be regulated and have your rates set by us rather than by you, then we (the regulators) will see to it that you have a fair rate and we will protect you from ruinous (undesirable) competition.

Entry into these regulated transportation industries became a difficult if not impossible hurdle to achieve. In order to be granted new authority to provide motor, bus, taxi, or later, shuttle service, the applicant had to prove that they were: (1) a fit and worthy company or individual, (2) that there was a market that was not being served by the existing carrier(s) that would be serve, (3) that existing carriers would not or could not serve this market, and finally (4) that your entry into this market would not financially harm the existing carrier(s). With this burden of proof, it is easy to see why only a very few applicants actually obtained new operating authority.

3. Transport Deregulation

The 1970's, introduced a general era of transport deregulation within North America. Railroads were floundering under the ratemaking decisions of the ICC. Equipment was old; infrastructure was deteriorating faster than the financially strapped railroads could maintain it, and service was generally poor. Motor carriers had taken the vast majority of high-value traffic in most products and commodities away from the railroads although railroads possess an inherent advantage of lower transportation costs. Speed, flexibility, and reliability of delivery had become more important to shippers as they turned from rail to motor carriage. Longer, unreliable travel times by rail meant more inventory carrying costs to manufacturers often to the point where the higher transport costs by trucks were more than offset by the lower inventory carrying costs.

The problems associated with transport regulations became obvious to many economists and even to U.S. Presidents. John F. Kennedy called for the deregulation of domestic transportation as early as 1962, citing the need to return competition and financial health to these industries. The primary problem stemmed from the rate setting actions of regulatory boards that often failed to consider the costs associated with infrastructure repair, the need for newer equipment, and reasonable profits to attract capital.

In addition, the unionization of the trucking industry, coupled with its protection from competition, led to outsized driver incomes and thus, overall transport costs. Individual firms could and did provide their own transportation by trucks cheaper than the regulated common carriers – although their trucks were, by law, not permitted to handle any other goods and had to return empty! Private carriage (fleets) became a major segment of the trucking industry during this time.

As a result, the railroads, motor carriers, and airlines were deregulated at the federal level through a series of Congressional Transportation Acts from 1976 (Railroads), 1978 (Airlines) and 1980 (Motor Carriage). States soon followed with deregulation of their intrastate transportation acts also. Local laws dealing with regulated taxis were not far behind.

The following examples drawn from the experiences of U.S. cities provide an illustration as to how sudden deregulation could occur.

3.1 Orlando, Florida, USA

The City of Orlando, Florida had experienced considerable turmoil in its taxi operations between the years of 1960 and 1980. In October of 1980, the U.S. Department of Justice, Anti-trust Division instituted a civil investigation against the Mayor and City of Orlando to determine if there had been a “Conspiracy to restrain trade in the transportation of passengers by taxicab.” This inquiry led to the creation of a Transportation Permit Board and the city’s current taxicab ordinance (Chapter 55, “Vehicles for Hire”). As a result, City Council permitted new taxi firms to be established, and the number of taxicabs permitted to operate on Orlando’s streets was increased substantially to 220 taxis. Subsequent to this time period, the City Council of Orlando requested that the TPB consider the ownership of taxi companies to reflect the social policies of the City. The new taxi companies that were formed by a lottery of new permits were granted based on ownership by gender (female), race (minority) and cultural diversity (ethnic origin).

3.2 Other Cities

Other U.S. city officials viewed the taxi deregulation movement as a way to both spread out the ownership of these companies to minorities and as a way to secure revenue for the city. In Atlanta, Georgia for example, in an attempt to deregulate the taxi industry, a New York style

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medallion-style system was established in 1979. In 1982, 1,582 Certificates of Public Necessity and Convenience (CPNC) were sold at an initial price of \$ 100,000 per permit. These CPNCs were necessary for a taxicab to be able to operate within the jurisdictional boundaries that were established. Because these medallions were sold to individuals and not taxi companies, there was little need for the owners to belong to a taxi call center, so most simply leased their medallion to whomever wanted to drive a taxi.

By 2000 only 1,560 CPNC were used by working taxicabs in Atlanta. In 2000 the official estimated sales price was \$ 12,000 but the unofficial one was nearly double that price, \$ 23,000. This sales price was expected to rise to as much as \$ 30,000 over the coming 5 years but has not done so. In fact, many believe it is worth less now. The only requirements for a transfer of a CPNC are a proof of insurance, a test of safety, a proof of emission, and the payment of the transfer fee of \$100. The annual renewal fee was \$50/CPNC/year. In 2000, Atlanta had 28 permitted taxicab companies in the industry. In order to drive a taxi in Atlanta the vehicle had to be associated with one of those 28. Every new company that wanted to start a taxi business had to buy or lease 25 CPNCs to do so. (Guensler)

Today the value of the CPNC is thought to be considerably less than \$20,000 and the market appears oversupplied, with the majority of taxis waiting between two and three hours at the airport for a fare. There is only one full service taxi dispatch firm left in the city, and it runs fewer than 250 taxis citywide. Most feel the Medallion system, while having an initial boost to the City budget, has been a major failure in terms of service quality, delivery, and value for the city of Atlanta.

3.3 Denver, Colorado

A final example of state taxi deregulation in the U.S. can be found in the city of Denver, Colorado. The regulation of taxicab services, use fees, and driver fines is divided between the City of Denver and the state's Public Utility Commission. The City of Denver's Department of Excise and Licensing regulates the issuance of taxicab driver permits and city taxicab stickers. The City accepts an individual's application to obtain a taxi driver permit, does a criminal background check on the applicant, administers a test of English, knowledge of the city, and taxi driver regulation, and issues a taxi driver permit. This is done with a small, efficient staff. This

City department does not, however, provide staff for the training of taxi drivers or the on-street inspection of the driver's behavior. These tasks are left up to the companies leasing vehicles to the drivers.

Economic regulation of Denver taxicab service, however, has long been the purview of the State through the Colorado Public Utilities Commission. Their approach has been classical economic regulation of a public utility, including regulation of entry, rates, service, financial dealings, and even exit. Perhaps the greatest controversy about this regulation has been entry regulation. It has come under the considerable pressure from State legislation over the years, as individual taxi drivers seek to start their own taxi companies rather than leasing vehicles or operating authority from one of the primary taxi companies.

A detailed history of the taxi regulation in the Denver Metro Area is set out by the Colorado Public Utility Commission (Colorado, 2008). Denver taxi regulatory experience, in oversight, comprises:

1953 – 1994: Traditional Regulation: Doctrine of Regulated Monopoly

1994 – Current: Policy Change – Doctrine of Regulated Competition

1994 – Expansion and Consolidation

Since 1994, the PUC and other officials in Denver have struggled with the concept of regulated competition. The number of taxi company providers increased, and there appeared to be a feeling of comfort with this approach. However, when economic conditions arose whereby there was a consolidation of these service providers, considerable concern by public officials and others appears to provoke an annual discussion before the state legislature and the courts dealing with the concept of entry into the Denver taxi market.

In an attempt to provide rate flexibility and foster greater competition, the PUC set the maximum fare(s) for flag drop and per mile rates the same for all three taxi companies, but permitted these operators to charge lower than the metered rate if they provide the PUC with a tariff of these less than the maximum rates.

3.4 Classical Transport Theory

Classical transportation entry regulation is based on the public interest being served by one or a few providers that have the size and equipment to serve a geographic market. It was

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typically argued that there was, or is, a minimum “economies of scale” or scope in which a firm could economically serve the market at the lowest cost to the consumer. If the market were viewed by the regulating agency as being most efficiently provided by a single company, such as with a telephone, cable TV, electricity, or water service, then only one provider was granted a permit or operating authority to provide the service. For example, in public transit, both by State statute and local regulatory authority, it was and is felt today that a single traditional (public) transit provider is best. This is a transportation monopoly protected by statute. A further argument exists that a saturated market operating without full knowledge (market failure) may increase the incidence of market abuse and result in a reduction in quality and/or safety standards.

In the trucking or motor carrier industry, regulatory authorities had determined that some amount of competition was good for the shipping public, so would often permit two or more carriers to participate in an area or city-pair market with the expressed desire for the shipping public to have a choice of carriers. However, while carriers could compete on the basis of service, they all had to charge the same rate for these transportation services. Hence, this became known as the doctrine of regulated competition. Entry, however, was still controlled by the transportation authority and the obstacles to enter the market, as discussed above, were high but not insurmountable. Many state regulatory authorities granted additional permits for service when and wherever they felt the market required it. Indeed, this remains an option for the Colorado PUC today when regulating taxi companies in their states.

Fortunately, regulation of local taxicab service within the State of Colorado had been maintained at the state level and has not undergone open entry or major expansive deregulation. Generally, this reluctance to grant additional operating authorities has had a positive impact on serving the public’s interest. Indeed, while city after city within North America underwent taxicab open entry deregulation, only to quickly re-regulate after fares rose dramatically and service deteriorated significantly, Colorado’s cities, and Denver in particular, had been spared this fragmentation of their taxi industry and ensuing problems of having to rebuild their tattered taxicab services and image.

3.5 *Theory of the Firm vs. Individual Behavior*

Classic economic regulatory theories are also based on the assumption that the behavior of firms would be that of a long term interest in the consumer - that business is built over the longrun through marketing, word of mouth, and personal experiences of the patrons of the services. All individuals, including the employees providing the services, are concerned about how the customer views the services so these customers come back themselves, as well as tell others about their positive experiences. It is assumed that, through trial and error, the good providers, like cream, will rise to the top, and that bad operators will sink to the bottom and go out of business – hence the classic competitive economic model – the best grow and prosper.

Within the taxi industry however, the employee in North American taxi firms has been replaced in large part by the independent contractor driver or, by an independent owner-operator who provides his/her own vehicle, insurance, cell phone service, etc.,. Under this fragmented scenario, each driver may treat each customer as a one-time patron, one he or she will never see again, so the temptation is always there to take a circuitous route, charge extra for bags, refuse short trips or credit cards, and even to overcharge if their income for that day is lagging. This is especially true for airport taxi drivers who acknowledge a visitor to the area is less likely to know the local geography and even less likely to return to the area, even if they make a formal complaint about overcharging.

Under this scenario there is no long run attitude of the service provider and there is often no repeat trial and error experience for the user – especially if the user is a visitor at the airport or an infrequent user of taxi services. Thus, under these conditions the classic competitive economic business model does not exist and just the opposite happens – the bad and somewhat unscrupulous operators often drive good competitors from the marketplace.

4. Taxi vs. Limousine Regulation

In addition to determining the appropriate number of taxi permits and companies allowed to be in business, local taxi authorities also face the regulator's question of competition from substitute forms of ground transportation – primarily the sedan or black car service. An example of this scenario was recently dealt with in Hillsborough County (Tampa, Florida).

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4.1 *Hillsborough County*

The Hillsborough County Public Transportation Commission, (HCPTC), like many local transportation agencies, is vested with the responsibility of regulating private for-hire forms of ground transportation. By specific state statute, Florida Laws Chapters 2001-299, Section 2. (1) requires the HCPTC to regulate all public vehicles upon public highways of Hillsborough County and its municipalities. This includes taxicabs, limousines, and vans.

Commissioners of the Public Transportation Commission (hereafter, PTC) have the broad mandate to regulate these forms of transportation in the public's interest. As in the case of Hillsborough County, this general set of prescribed powers includes the responsibility and authority to economically regulate these forms of ground transportation. Such economic regulation typically takes the form of entry regulation requirements, prescribing fares to be charged to the traveling public and setting overall standards of performance by the authorized carriers and their drivers.

By far the most involved component in local transport regulation is that of taxicabs. Due to the need for private, for hire transportation to be available at all times of the day or night at reasonable rates, taxicabs are traditionally regulated with respect to market entry, metered fares, vehicle types and equipment, and driver behavior. This mode of ground transportation is considered to be an on-demand "common carrier" form of transportation available to the general public. Taxis are required and permitted to offer "on-demand" services either by being dispatched from a central dispatching office, waiting at a hotel or airport cab stand, or in some communities, by street hail.

Pursuant to PTC Rules, taxicabs within Hillsborough County are defined as:

"...any motor-driven vehicle, equipped with a taximeter with a capacity for 6 or less passengers, including the driver, for the transportation of for hire passengers, which operates within the County, but does not include sight-seeing cars or buses, streetcars, or motor buses operated pursuant to franchise. Taxicabs can be one of two classifications: standard taxicab or luxury taxicab, unless otherwise indicated, use of the word "taxicab, within these Rules shall be meant to include "standard taxicabs" and "luxury taxicabs" collectively." (PTC Rules, Section 1.27 – Taxicabs, p.4)

Within Hillsborough County taxis are strictly regulated as to age and mechanical condition of the vehicle, number of permits, meter reliability, service quality, and overall appearance of the vehicles, etc. There are a number of competing cab companies offering a 24 hour per day on demand service. Taxis may also offer prearranged or contract service and they may charge less than the meter rate when operating under a contract for service. Overall it would appear that the taxi industry is healthy in Hillsborough County, offering a relatively high level of on-demand public transportation to the general public.

Generally taxis are the only form of regulated ground transportation that is permitted to offer “on-demand” services. It is felt that the public’s interest is best served by standardizing this form of ground transportation service through the use of taximeters that charge the legal and lawful rate to the traveling public. These fares are, in almost all communities, required to be visibly displayed. In the US this is typically on the exterior of the vehicle so all prospective users may see, while the UK, as with Ireland, Germany and many other EU countries, require the display of tariff cards with the vehicle. In this way users will always know what the fare per mile will be before entering the vehicle, in the US; or prior to agreeing to a journey, in the UK.

A common approach is also seen to promote taxis, and only specified vehicles, by unique color schemes and displays, including the use of a lighted dome (rooftop fixture) that indicates they are a taxi for hire.

4.2 *Common vs. Contract Carriage*

Also typical is the reliance of the general public upon the taxi regulating authority to enforce standards within the industry by regulating fares through meter inspections, safety of the vehicles through vehicle inspections, and driver integrity through background checks. In many locations, such as an airport, hotel, cabstand, or on the street, passengers expect to be treated fairly and to receive roughly the same quality of service at the same fare by taking the first cab in line. The general public is relying upon the regulating authority, in this case, the Public Transportation Commission, to have done all this for them and to keep other ground transportation firms from operating as “on-demand” taxicabs.

Limousines, on the other hand, are considered to be “contract carriers” whereby the user enters into a contract for service with the limousine company and is regulated as such. That is,

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there is the assumption that the vehicle is contracted for a specific trip, occasion, or time period, prior to the actual event. Prom nights, weddings, special occasions, etc., are the typical traditional services offered by limousine companies. Only in a few cases, such as at a small number of North American airports, are limousine services permitted to offer “on-demand” service, whereby a customer can walk up to a sales counter and ask to be transported immediately by a limousine. Typically, this on demand market is reserved for taxis due to the need to provide a uniform or common carrier level of 24 hour service throughout the community.

Except for mandatory minimums, limousine rates may or may not be fixed by local regulatory bodies because it is felt by some local authorities that these ground transportation services are best served by encouraging competition among these service providers. Therefore, from a regulatory standpoint, it is typically easier to enter the limousine market where rates and services may vary considerably. It is expected that, due to competitive market forces, there will be turnover in the companies as some succeed and others fail. However, since this is a contracted service, it is felt that the average consumer can and should do their own research as to the quality of service, comparable rates, and dependability of the limousine company. Pursuant to PTC Rules, limousines within Hillsborough County are defined as:

“... any motor vehicle for hire not equipped with a taximeter, with the capacity of 15 passengers or less, including the driver. This definition consists of vehicles which are recognized by the industry as “luxury” vehicles, that are considered as high-end luxury vehicles by the manufacturer and vehicles that have been uniquely modified so as to provide “luxury” limousine service. The “luxury” quality of vehicles will be determined by assessing the aesthetics of the interior and exterior of the vehicle, amenities provided to the passenger, spaciousness and comparison to current industry standards for vehicles performing limousine service in Hillsborough County. Unless otherwise indicated, use of the word “limousine” within these Rules shall be meant to include all varieties of limousines discussed in these Rules, collectively. Limousines can be sub-categorized as follows: a. “stretch Limousines” or sedan/SUV model that was manufactured or remanufactured with an extended wheel base or; b. “Limousine Sedan” or luxury vehicles with space for at least two passengers behind the driver and additional space behind those passengers for luggage, or; c. “Sport Utility Vehicles” (SUV) that are top-of-the-line models and have the luxury package options included to provide a luxury service, or; d. “Limousine Buses” that are used for passenger transport for-hire. These buses can have forward facing

seating or can be modified for circular or “party” seating.”(PTC Rules, Section 1.15–Limousines, p.3)

4.3 *Competitive Rate Making*

Historically there was little competition between limousines and taxis because they served different markets. Taxis were more for the everyday use of individuals that did not have the use of a personal vehicle and were not inclined or could not use public transportation to their destinations. Limousines were special luxury vehicles contracted for a specific occasion. Taxis charged by the (metered) distance and limousines charged by the hour. Taxis did have an hourly rate but this was for waiting time – not provision of transportation.

Today however, as the foregoing definitions show, the classifications of taxi and limousines have been becoming more broadly defined to include luxury sedans, and SUVs which could conceivably be used either as a taxicab or a limousine – the major distinction being whether the vehicle had a taxicab meter or not. Some limousine operators, seeking to expand their markets and vehicle utilization in many communities, have expanded their service offerings to include sedan services which have been a major growth opportunity for limousine companies.

This is typical at many airports where limousine companies will offer a flat rate airport limousine (sedan) service to the traveling public. In the vast majority of cases, these flat airport rates will be higher than prevailing taxicab rates, but the difference may be small – less than a 20% premium for luxury sedan service. Alternatively, some taxi operators, using luxury taxicabs (sedans) would like to compete with the traditional limousine market by offering upscale or luxury taxicabs at significantly higher fares than regular taxi service. While a few taxi operators, such as Houston Transportation Company’s Towncar service, offer a luxury sedan service with a meter at regular taxi rates.

There is obvious confusion in the marketplace, as essentially the same vehicle is being used for both “on demand” and prearranged “contract” service with various pricing schemes.

When there is a flat rate from the airport and prearranged ground transportation, there is a contract for this service between the passenger and the limousine provider. The rate is typically more than any mandated minimum, so the public’s interest is best served by having both services available to the general traveling public. However, it is often tempting for the limousine sedan operator to offer taxi type services elsewhere in the community without a meter or the authority

to offer on demand service at rates which may be at or lower than taxicab rates, especially for longer trips, thereby taking a traditional, lucrative passenger market away from taxis.

These general movements within the ground transportation industry have been evolving for some time. However, coupled now with advent of transportation “network” providers such as Uber X, Lyft, SideCar and others, the taxi regulatory community is presented with significant new challenges. These authorities seek to protect the general interest of traveling public by enforcing taxi regulations to make this form of common public transportation affordable and available.

At the same time, authorities typically favor permitting much greater competition within the traditional limousine (pre-arranged contract) markets to prevail. However, with new technologies brought about by mobile apps, prearrangement definitions have been seriously eroded or eliminated entirely.

Regulations have traditionally attempted to provide a protective zone for shorter taxi trips. There were two common methods for doing this. The first was to mandate either a fixed waiting time before a contract carrier such as limousines could offer services, usually one hour, but even as much as 24-hours in advance, or secondly, by setting a minimum hourly rate and a minimum of one or two hour contracts for limousines and other prearranged operators, or both.

4.4 Short Trip Competitive Advantage

These forms of regulatory rules provide taxis with a competitive economic advantage for shorter trips which typically required less time. In addition it was felt that the integrity and availability of taxicabs is maintained. Since limousine services can and do often vary their rates according to demand, (a New Year’s Eve rate will be significantly more than the average weekend rate) it would be possible for these carriers to undercut taxi rates during non-peak time periods when demand is lower for a specialized vehicle.

Therefore, local regulatory bodies often face a difficult decision as to how far to separate the taxi industry from competing forms of ground transportation such as limousine sedan services and now transportation network providers. Setting a minimum rate too high could deprive the public of this ground transportation alternative, while setting it too low might eliminate the distinction between on-demand taxis and prearranged limousines and car services.

Taxicabs, by regulation, must charge the same metered rate on New Year's Eve as any other night of the year and be available 24 hours per day every day. Thus, the interest of the public is best served by using some regulatory framework that generally encourages short, on-demand, trips to be provided by regulated taxicabs, but provides greater competition among the limousine industry for longer or special event ground transportation trips.

Within Hillsborough County, the PTC has grappled with this issue for many years. A review of PTC meetings ranging back twenty-five years or more indicates considerable thought, reflection, and consultation with both the taxi and limousine operators as to how and at what level to set minimum fares for limousines. For example, in December, 1990, according to the minutes of the PTC Commissioners meeting, they debated the merits of the existing minimum for luxury limousines of \$30.00 per hour with a two hour minimum or a \$60.00 minimum rate.

Again, in 1991 the PTC minutes reflect, after considerable debate and a full public hearing with members of the limousine and taxi industry testifying, the PTC decided to establish the minimum rate for limousines at \$40.00 per hour. The PTC determined this was the best compromise allowing limousine competition among limousine companies but preserving on demand short trips for the taxi industry. However, Hillsborough County is currently (2013) fighting a law suit brought about by the Institute for Justice for having a minimum limousine rate on the grounds that such a rate stifles competition and creates higher prices for consumers.

Thus, as mentioned in the main body of this report, the entire methodology utilized by regulators of protecting the taxicab market from ruinous competition from unregulated prearranged carriers, is now being severely challenged by such firms as Uber, Lyft, and Sidecar which see no need to provide minimum fares or wait times for their prearranged sedan (taxi-type) service. Furthermore these new entrants into the taxi markets feel they should also not be constrained by limited market entry and metered rates or fixed rates but rather should be able to vary their rates based upon demand and have as many vehicles as they feel are necessary. Ironically such devolution of entry, minimum rates, and rate certainty are exactly the same conditions that existed in the U.S. prior to the 1930's which brought about the need for taxi regulations. To some, it would appear that history is indeed repeating itself.

APPENDIX E THE PROPOSE VEHICLE AND DRIVER IDENTIFICATION SYSTEM

The propose vehicle and driver identification system for ARA of Houston is outlined as follows;

GateKeeper web based software to register/track all drivers and vehicles along with associated information on each

- a. Software has capability to store a picture of each driver
 - b. Software has capability to allow customer to do account data entry/updates and submit for approval by the city. Saves a lot of data entry by City staff, but not required to be used.
 - c. Standard set of reports. All reports can be exported to other formats- Excel, Access, text files, etc.
2. 5000 RFID Driver tags
 3. 3500 RFI Vehicle tags
 4. 7 Mobile RFID Tag readers
 5. 7 Tablet computers- not iPad or other “smart” devices. A small computer with a Windows 7/8 operating system will provide much better functionality at a lower price..
 6. Wireless card for each computer. I am assuming a need for real-time access to the system. Alternative is to update the computer just before each shift with the latest data and then download information to the server from the shift. Less expensive but a lot of manual effort.

Assumptions:

1. The customer already has the equipment to take driver pictures
2. System will reside on a hosted (cloud) server that will include the database software. No server hardware to be purchased
3. Gatekeeper Systems will provide and maintain and support the hardware and software
4. Payment will be a monthly fee for the system and one-time charge for tags as they are needed.

Preliminary “budgetary” pricing information:

- Hardware cost- one time: \$50,000
 - a. 7 Handheld readers
 - b. 3500 vehicle tags
 - c. 5000 driver tags

This is quoted for retail price for equipment that will work and GateKeeper has used before. Readers are about \$1800 each, driver tags \$3.00 each and vehicle tags about \$5.000 each. There are cheaper options, but GateKeeper would not have the confidence that they would provide good performance.

- Annual Recurring Cost \$11,000 or about \$925.00 per month
 - a. Hosted server and Operating System, Database software
 - b. GateKeeper CVM Software
 - c. On-going software and hardware support on a 24/7 availability
 - d. All implementation costs- installation, configuration, training, manuals, etc.

Assumptions:

- ✓ Customer will provide mobile computer devices. (We can provide them, but they may already have these devices)

Customer will generate the driver picture if needed. We could provide a camera/badge system but we would need more information to determine what might be needed