

St. Louis Metropolitan Taxi Commission Report

Final Report
August 2015

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INTRODUCTION

The author conducted a comprehensive study of the St. Louis area taxi and limousine services in 2008, and a major objective of this study was to update that analysis. However, this report also recognizes the changing nature of the taxi and limousine marketplace and the questions now facing the St. Louis Metropolitan Taxi Commission (MTC). These issues and questions are related to the introduction of transportation network companies (TNCs) into the supply of taxi and taxi-type trip providers. Therefore, this study also addresses these questions and provides comprehensive recommendations.

Why Regulate Taxis and Taxi-Type Trips?

The necessity to regulate taxi and taxi-like services within the city of St. Louis and St. Louis County is threefold. First, there is the legal responsibility prescribed by the Missouri State Legislature, which created the MTC, to not only ensure the safe use of public taxis, but also to economically regulate and promote the provision of public taxi services within the community. Overall, it was felt that residents and visitors alike need dependable, affordable, privately provided taxi services.

One could argue that citizens also need other generally available goods and services, such as grocery stores, restaurants, car rental firms, etc. These services are not economically regulated in the belief that when government intervention is kept to a minimum, competitive forces will bring about quality operations and the best consumer prices. Why, then, is there a need to regulate St. Louis, Missouri, taxi and taxi-type services?

The simple, yet most effective, answer lies in the rationale that it is in the public's interest to regulate taxicab services in St. Louis, Missouri. A community has a social commitment to both its citizens and its visitors to make this vital public transportation service available, safe, and economical to use. Traditional taxicab rates are balanced to protect the user from onerous or arbitrary fares, and also to yield sufficient funds to allow the provider to remain in business and make a modest profit.

Historically, there has been a symbiotic relationship between the regulated taxicab operators and the regulators of this industry. Simply stated, this relationship is an implied agreement between the regulated and their regulators. If taxi operators charge only the rates prescribed by the regulators, and provide good service, the regulators will protect these taxi companies from unregulated and unlawful or harmful competition. The agreement does not mandate that the taxi companies have a monopoly on the service, only that additional service providers will be permitted into the marketplace only after lengthy public consideration and analysis indicates that existing taxi operators will not be unduly harmed by these new entrants. Furthermore, the agreement requires new entrants to follow the same rules and regulations by which current providers abide.

However, the advent of TNCs has brought about the desire for these transportation brokers to enter the taxi marketplace without being required to apply for the authority to provide taxi services or follow the same regulations as taxicabs. Yet these firms provide taxi services to the very same marketplace, thereby shattering the implied agreement between the regulated taxi operators and their regulators.

There should not be any doubt about the nature of TNCs and their operations as taxi broker companies. They solicit users through their smartphone apps, provide for and support a network of service providers, collect the fares, and remit to the drivers their share of the revenues. TNCs act in the same manner and serve the same markets as taxicabs.

As shown in Appendix A of this report, a deregulated (or open-entry) approach to taxi and taxi-type services within a community has historically led to unreliable, expensive, and spotty taxi services, at best. History suggests that this happens when the traditional taxi marketplace is suddenly oversupplied, and TNCs currently represent over-suppliers who want to play by substantially different rules. With TNCs only being a few years old, there is no way to tell exactly what will happen when these operators cause an oversupply as they enter the marketplace. Like any good transportation service, the economic environment for taxi and taxi-type services must be appropriately planned for, coordinated, and continually upgraded to attract and support the needs of a customer base and keep pace with innovations and service levels within the marketplace. Otherwise, chaos, overcharging, and spotty services to those most in need of privately provided public on-demand taxi services may result.

Another important reason for regulating taxi services, especially in the St. Louis area, is the public image it conveys to its residents and visitors. Communities within the St. Louis area are considered to be progressive and “upscale” locales in which to reside and enjoy the benefits of Midwestern living. These areas have worked hard to develop a positive image of clean, modern, and progressive community values. Political leaders within these communities want to portray their communities as being supportive of change, embracing new technologies and services, especially as their constituents desire these services. Thus, they move to incorporate new service providers such as TNCs.

It is both the public’s need and its preference to have a modern, positive image for its taxicab-type operations. Taxicab-type services should reflect the community’s desire for clean, efficient, and responsible public transportation services that meet the needs of all. St. Louis, Missouri, does have extensive public bus and light rail systems; however, for those who are disabled or lack access to private automobiles, the privately provided taxi service is the only form of public transportation available for many of their door-to-door travel needs.

There are many social organizations, including the St. Louis Metro, that provide ADA-approved transportation trips, but often these require pre-qualification, involve preplanning for both going and returning, and typically consume large amounts of time and involve high costs. Proper regulation of efficient taxi services is one way the community can ensure that its citizens have access to privately provided public transportation services which are convenient, easy to use,

and, when all costs are considered, cheaper to offer than publicly provided transportation services, especially those that require the use of a wheelchair-compatible vehicle.

Previous Taxicab Regulations in St. Louis

Prior to the creation of the St. Louis Metropolitan Taxi Commission in 2003, taxicabs were not regulated outside the city of St. Louis and, according to taxicab owners, only loosely regulated within the city itself. Taxicab owners reportedly added vehicles when they felt they were needed and decreased their numbers whenever they could not find drivers. Fares were metered but rarely regulated or inspected.

Official reports and public editorials reflected an industry that had become an embarrassment to local officials, users, and visitors alike. Cabs were old and dirty, and service—which could be just fine if one knew a regular driver—was often unpleasant and expensive for the users, especially visitors. Hotel managers and airport officials were particularly vocal about the need to clean up the taxicab image and provide better service to the traveling public.

Given this background, the Missouri State Legislature created a regional St. Louis Metropolitan Taxi Commission to address taxicabs and the broader commercial ground transportation services industry including sedans, limousines, and shuttles. After establishing its administrative organization, the Commission drafted an initial Vehicle for Hire ordinance setting forth new county-wide requirements for Certificates of Convenience and Necessity, drivers' license requirements, vehicle standards, drivers' dress and conduct guidelines, violations, appeal procedures, etc., for the industry. Existing companies, including all taxi firms, were grandfathered into the new system and, as shown below, several of these taxi companies—large and small—still exist today.

CURRENT TAXI COMMISSION COMPOSITION AND ACTIONS

The Commission's appointed members were somewhat controversial in that, despite the seriously deteriorated condition of taxi services in the city and county, commissioners were appointed partly based on their knowledge of the services. State legislators felt that at least some of these commissioners should come from the existing taxi industry. The original authorization for the commission stipulated that there would be two large taxi company representatives and one smaller taxi company representative. This composition has continued and is credited for providing the knowledge and ability to continually update and improve taxi service within the community.

These commissioners, and their director and inspectors, faced the politically difficult task of bringing the largely unruly taxi industry under compliance with the new regulations. Simple customer-oriented measures such as safe, clean, uncluttered vehicles no older than 11 years, drivers' appropriate dress, operational meters, and current licenses were given early priority. Rather than continue the practice of suspending drivers' privileges for a day, week, or months, violators were given small fines of \$25 for small offenses and larger fines up to \$200 for more serious safety violations. The old practice of adding or subtracting vehicles as desired was stopped and a moratorium was placed on the number of taxi companies and taxi vehicles that could be operated or held in reserve. Most taxi operators were permitted to operate their previous number of vehicles for hire.

Many drivers objected to these new rules and fines for noncompliance, and the Commission's right to issue fines was successfully challenged in the state court. Having lost the right to issue fines, the Commission and its staff had no choice but to return to their administrative right to suspend operating privileges for violators of the Vehicle for Hire code in 2007. However, by this time much of the visible cleanup of St. Louis taxicabs had been accomplished. Newer vehicles were on the road. Drivers were keeping their cars cleaner, and there was a general community feeling that a lot had been accomplished.

The Commission also sought to protect parts of the traditional taxi market by making it illegal for hotel doormen and concierges to accept money for placing customers wanting taxicab service in a vehicle for hire that was not the first on the hotel stand. A common practice among hotel doormen in many large cities was to call a sedan or taxi driver who was providing him/her with a kickback for placing customers in their vehicle. Some hotels were accused of using their own vehicles to transport passengers, calling these charter trips, and charging a fare. While hotel doorman fines are difficult to police, their mere existence is helpful in keeping this practice to a minimum.

Since 2008, the MTC has methodically gone about its business of increasing the standards for taxi vehicles, drivers, and services within its appointed area. The main criticism has been its reluctance to approve new applicants for additional taxi firms. While full service taxi companies that could demonstrate the need for additional permits were permitted to grow, the barriers to entry created by the original charter for the commission are substantial, yet traditional and widespread within the taxi industry. New applicants for a certificate of convenience and

necessity to provide taxi services had to develop and present research that essentially demonstrated that the current operators were not servicing a particular market and were not likely to do so, before new certificates were to be approved by the commission. Given the advances in technology and improving service levels, this has been difficult to do.

Another problem, highlighted by the 2008 St. Louis taxi report, was the availability of taxicab services in the evenings. Responding to this need, the MTC moved to service this higher night time demand by mandating that 10% of all on-call taxicabs be allowed to work only between the hours of 7 p.m. and 9 a.m.

Lambert-STL Airport Taxi Service

Historically, only taxicabs with airport (AP) taxi licenses were permitted to serve the airport as “walk-up” cabs. That is, only AP taxi firms and their taxis could wait in line at the airport holding lot to pick up airline passengers who sought cab service. After considering alternatives to improve airport taxi services, Lambert-STL airport officials, in cooperation with the St. Louis Taxi Commission, issued an RFP for a single airport taxi service in 2006, but were unsuccessful in obtaining a single operator for the airport. Instead, a new system was devised in which 288 taxicabs would be able to service the airport as walk-up cabs. Existing AP taxi companies serving the airport were permitted only a fraction of the total number of cabs they had previously provided at the airport.

CURRENT STRUCTURE OF THE ST. LOUIS TAXI INDUSTRY

The St. Louis taxi industry is operated under what would be considered “managed competition” by a small number of full service, technology-oriented, taxi companies. In 2008, St. Louis taxi companies were permitted to pay a \$55.00 per year fee to keep their reserve taxi permits active in the name of their company, even though they may or may not be using them on a vehicle for hire. These “reserve” vehicle permits were then kept from others that may have wanted to enter the taxi industry but were not able to effectively present and document the need for additional taxi services. The situation today, however, appears to be quite different, as all four of the larger taxi companies utilize their reserve permits and desire more permits since they have drivers and vehicles wanting to provide service but no permit under which they can operate.

Currently the St. Louis taxi industry serves at least five major market segments, these are:

- **On Call:** Traditional telephone calls to a taxi dispatcher who passes on the request for service to drivers who have the choice of accepting the call or letting it go to some other driver. This market is served primarily by the four largest taxi companies in St. Louis.
- **Airport:** As noted above, there are a specific number of special licenses issued to companies and their drivers to pick up walk-up passengers at the St. Louis International Airport. These taxis can pick up in other areas by prearrangement only if called or if they have a prearranged personal pickup to make. They may not sit at downtown hotel stands or be hailed on the street.
- **Downtown Non-Call:** These taxicab drivers do not belong to any taxi company that provides their drivers with radio calls or apps. Or, if they do have dispatch services available, these drivers choose not to answer radio calls or apps, if offered. They prefer to wait at hotels or other taxi stands, work their personal calls (by cell phone), or be hailed while they are cruising. There are a large number of traditional taxis within the St. Louis market that act primarily as downtown taxicabs. These are mostly grandfathered taxi permits that are operated by one or just a couple of individuals. Although they do serve the public, their availability to the general public is often limited, especially at peak evening times when they may be just sitting at a hotel stand.
- **School/Contract Runs:** St. Louis community schools provide considerable transportation through a system of taxicabs. Taxicabs are consistently cheaper for transporting some children who may not fit a traditional bus route or have disadvantages/needs that are met by the school and special educational funding. These school contracts are typically let by competitive bidding, and there is considerable competition among all taxi companies for this business. In addition, other agencies also develop contracts for repeat taxi services. These services are typically scheduled in advance for a driver and do not go through taxi companies’ call centers.

- **Taxi Apps:** New to the St. Louis taxi market are taxi apps which have been developed by other larger taxi companies and utilized for several years. Through the use of an individual's cell phone, taxis can be arranged with as few as three taps on a preloaded taxi company app. These are not new trips or a new market, but rather trips that otherwise would have been arranged through phone, internet, taxi stand, or hail. However, these apps are growing very quickly and are becoming a significant part of a taxi companies' service offerings.

FRAMEWORK FOR ANALYSIS

Unfortunately, there is considerable confusion today, building upon that which started a few years ago, as to what defines a taxi company. The general public sees a car with a dome light on top, the name of some company on the vehicle's side, and the letters "taxi," and assumes that it has a meter, is regulated somehow, and that there is a company behind the service they are calling, hailing, or stepping into at the airport. Taxi companies today can be, and often are, very different, even within the same community. St. Louis is comparable to most other larger communities and has several different taxi operations labeled as taxi companies.

Unlike other larger communities, however, St. Louis has not yet been further confused as to what defines a taxi by the introduction of TNCs. These vehicles are personal cars with very little, if any, company identification. There may be a small "U" of about 5 x 5 in. placed in the passenger side windshield, but nothing else. There is no distinct color scheme, dome light, or lettering on the doors or windows to let the public know that it is a taxi for hire via smart phone app. Even the pink mustache of the firm Lyft is being retired in favor of a small pink mustache on the dashboard of each private automobile. However, considerable pressure is being exerted upon the MTC to develop a taxi program that would include TNCs, so this report will include them as a current form of taxi operations.

A thorough knowledge of St. Louis taxi services and potential taxi services first requires some detailed explanation of the 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 or being dispatched by a transportation broker (TNC). At one end of this continuum, there is an orientation toward the taxi company as the provider of service and the one that regulators look to for compliance with local taxi rules and regulations. At the other end is the reliance on the independent owner-operator taxi drivers brokered by a TNC as the providers of service. (Figure 1).

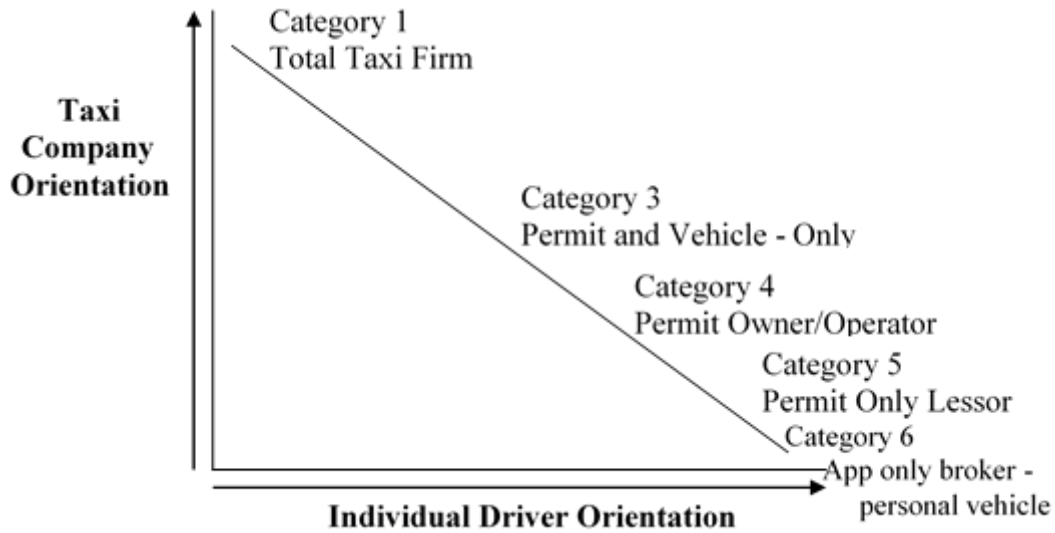


Figure 1. Continuum of city taxicab firms

As shown, this continuum of taxicab firms ranges from the total taxi firm which adds significant economic value to the communities' taxicab permits through the creation and service of local taxi demand, down through a simple permit holder who leases a city property (the taxi permit) to the highest bidder, to the taxi service transportation broker (TNC) that in some cities has no permit except for a commercial taxi trip and has no local taxi company orientation. At the upper end of this continuum, the total taxi firm is adding significant value to the community permit using its own employees or commissioned drivers, under their management.

As society moves toward the concept of the independent TNC driver who owns his/her own personal vehicle, the community inherits a much greater role in the management of these taxi service drivers on a day-to-day basis. As an "independent contractor" driver, the TNC broker company cannot "control" the actions of the driver by forcing him/her to accept an app notification of a customer wanting taxi service. The electronic app system may only "offer" the business to a driver. Of course, customer evaluations of the service exert considerable control over the TNC driver. Drivers must maintain a certain customer score or they are immediately "terminated" from the TNC taxi brokerage service.

Smaller taxi companies using the old radio equipment will simply announce the opportunity over the radio and all drivers have a shot at the business. If it is a lucrative trip, they jump on it, even misstating how close they are to the pickup. If it is a short trip to the grocery store, or from an area in which they do not like to drive, they may simply not respond. Likewise, they may ignore the opportunity if they feel the cost of gas is too much for them to make the trip, if they do not want to leave the stand they are on, or if they simply want to wait for a better fare. Taxi companies using newer global positioning system (GPS) technology can limit the call to the closest taxicab or the closest one whose turn it is to receive a trip. This driver can, of course, turn it down, and then it goes to the next in line.

Unfortunately, most city regulatory systems are set up as if there were still either Category 1 or Category 2 full-service taxi firms. As such, city officials exercise very little management of the taxi drivers at first, assuming the taxi company owner or the permit holder will manage the driver. In many cities and with many so-called taxi companies, this is not the case. Over time, unless a community is vigilant, through their responsibility for issuance of driver's permits, vehicle inspections, daily citations for violations of city or airport taxi ordinances, etc., the city or the airport becomes the day-to-day supervisory management for the community's taxi operations. This framework is an appropriate template upon which St. Louis's current (and potentially future) taxi firms can be placed.

Taxi firms licensed by the St. Louis MTC historically fall into Categories 2, 3, 4, and potentially, 5. Since the 2008 report, however, consolidation has been expected and encouraged within the St. Louis taxi community in order to provide for greater use of modern dispatch technology, newer vehicles, and improved service response times. There are now four taxi firms which have separate business facilities, provide extensive dispatch services, lease a substantial portion of their fleets as opposed to having all owner-operator drivers, and attempt to assist most of their drivers in marketing their service through service contracts, vouchers, and advertising. As will be shown in the following section, County/Yellow Cab of St. Louis, Laclede, ABC Checker, and Metropolitan, would be considered Category 2 and 3 firms.

These firms have physical facilities that include 24-hour manned dispatch operations, some maintenance facilities, offices, training rooms, and driver lounges. These companies may own and maintain a significant portion of their fleets using common vehicles and color schemes. They also market their services within the community. Within the taxi industry, these firms would be considered "Full Service Taxi Companies." There are, of course, varying degrees of just how full service each firm is. More details of the similarities and differences among these firms are presented later in this report.

Category 4 firms would be those St. Louis taxi firms being dispatched primarily from the drivers' homes and/or cell phones while they themselves are driving. If a taxi firm's operator fleet consisted primarily of those for whom they provided insurance coverage, but offered no dispatching or other services, that firm would be considered, at least in part, a Category 4 taxi firm.

These cabs could serve only the bus and train stations, hotels, and public cab stands. If the taxi firm provided no insurance coverage, dispatching, voucher business, credit card processing, etc., but only leased its "colors" and permits to owner-operators, then for all intents and purposes, these would be single owner-operator taxi firms simply operating under another's colors, and would be considered Category 5 taxi firms.

Finally, there could be TNC personal vehicles dispatched by app if so permitted by the MTC. Under the business model desired by typical TNCs, there would be no involvement of or oversight from the MTC. Their business models define their operations as part of the sharing economy or as a platform company, neither of which subject them to local taxi rules and regulations. As previously noted both business models operate under questionable assumptions

and stretch the credibility of those who support these arguments. TNCs are commercial, for-hire transportation brokers or Category 6 providers. It would be entirely the responsibility of the community, or now in some cases the state of Missouri, to ensure that these TNC operators follow any rules and regulations adopted for them. In St. Louis, it is still the obligation and authority of the MTC to develop and administer local vehicle-for-hire regulations, including taxi rules and regulations.

As detailed in the 2008 report, the problem associated with such devolution of the taxi industry is that it requires cities and airports are required to assume a managerial role over drivers, since officers of many firms from Categories 3, 4, 5, and 6 do not. Community regulatory agencies are left to screen driver applicants, issue driver permits, fine violators for not following the operating rules, set meter rates, inspect vehicles, and ultimately determine the economic conditions within which the taxi drivers operate for firms in the 3, 4, and 5 categories. With Category 6 providers (TNCs), the community is being asked to accept TNCs' word on driver background checks and insurance standards, possible vehicles without safety inspections, and flexible rates. This would represent a complete devolution of entry into the taxi and taxi-type services market with little or no control by local authorities.

A serious problem arises from this transfer of responsibility for the taxi industry when taxi drivers realize they are receiving no real benefits from the fees they are paying taxi firms for operator's permits. Lower insurance costs may be seen as the sole value of associating with a cab company if the driver can only get business from hails and/or public cab stands. At this stage of devolution, community leaders are often convinced that granting individual permits to these non-dispatched drivers will improve the service, only to realize later that they have created an even worse situation, making the community responsible for all aspects of taxicab regulation. Instead of trying to manage a few taxi firms, they are dealing with a hundred medallion-owned taxi firms, each composed of one or a few vehicles. Fortunately, for St. Louis, the MTC has not gone down this path but rather has encouraged the continuation of consolidation of the taxi industry into more full-service taxi companies.

Framework Questions for the Taxi Industry by Introduction of TNCs

The issue of devolution and loss of control of provided services and fares also pertains to TNC drivers, but the situation could be much worse with driver numbers in the thousands rather than the hundreds. For example, one TNC wishing to enter the St. Louis market has indicated they have over 7,000 drivers ready to begin service, if only they had the legal ability to do so. Such a rapid influx of taxi-type services would dramatically impact the current providers, their incomes, and their jobs. Thus, it is essential that important steps be taken to consider these impacts and plan for them in an orderly fashion, should the MTC decide to deregulate entry into the taxi services industry.

If the MTC decides to deregulate entry into the taxi markets, further questions and issues arise as to how this is going to be accomplished. Are there current requirements of safety, security, and equal access existing for the traditional taxi industry that can be lessened? What will be the requirements for private cars, driven casually by individuals with little training, using personal

automobile insurance, and no legitimate police background (fingerprinting) checks, drug screens, or random testing? Will flexible fares be permitted, and, if so, how flexible? Will traditional taxicab drivers be permitted to use flexible pricing as well? What licensing and fees, if any, will TNCs and their partner drivers pay to the MTC? Finally, what provisions would TNCs have to make for the transportation disadvantaged?

This report reviews existing traditional taxi services within St. Louis and attempts to provide input for making future decisions about how and under what conditions the probable introduction of TNCs will be implemented in the St. Louis taxi market.

ST. LOUIS TAXI STUDY UPDATE TO 2015

Interviews with Taxi Firm Owners/Managers

Over a period of months, interviews were conducted with all of the St. Louis County taxi firms that had significant physical business facilities and digital dispatching capacity. The project director contacted all other taxi firm owners for their input into this study.

St. Louis County/Yellow Cab is one of four taxi companies in St. Louis with advanced digital electronic data systems that can be used to verify service area coverage and service wait times. Laclede Cab, ABC Checker, and Metropolitan Cab maintain historical databases of every call or app request, and data surrounding the disposition of these requests for service. All four companies agreed to share these data with the researchers performing this study. However, Metropolitan Cab is still in the process of implementing its new digital dispatch system and app, so, historical data were not available from this firm. For a better measurement of the overall taxi service levels within the MTC service area, the data from County/Yellow Cab and Laclede Cab companies were combined since their data were available for the entire year. ABC Checker data were from a different time period, so their results are presented separately. The following is the data analysis of service levels provided by these three major taxi companies in the taxi call market within the city and County of St. Louis for 2014.

St. Louis County/Yellow Cab of is the largest taxicab company in St. Louis, and is considered a full-service taxi company that has an extensive office facility, including modern repair facilities, employee offices, a driver training facility, and a driver lounge or waiting area.

County/Yellow Cab utilizes There is a high degree of taxi dispatch technology utilized by County/Yellow Cab; their prime dispatch software company, Mobile Knowledge, has continually updated this technology since 2008. The most notable aspect of this technology is the addition of a dedicated taxi app, provided by Mobile Knowledge, which allows a user to view the location of each taxi via GPS and to request the closest taxicab. These data are updated via the computer to show users the expected wait times.

As mentioned in the 2008 study, County/Yellow Cab of St. Louis has an extensive computerized dispatching and information system for efficient management of telephone calls for their taxis, which is still the dominant method St. Louis citizens and visitors use to arrange for a taxi, either immediately or at some predetermined time in the future. If needed, dispatchers can view maps of pickup and drop-off points and driver locations, thereby providing turn-by-turn directions of where to go should a driver require assistance. Drivers can also use their own GPS screens to view turn-by-turn directions provided by their on-board computer.

The number of County/Yellow taxi app users is growing very quickly; well over 20,000 were surveyed in this study. Users can book a reservation in as few as three clicks and get a fare estimate so they will know approximately how much it will cost to get to where they are going. Users immediately receive a confirmation number when they book through the app. They know

when their ride is on its way, and will receive notifications, including vehicle number, once the taxi has been dispatched. Finally, users can monitor the progress of their vehicle on the map and see when their driver is nearby.

Such computerization also permits the taxi company to assess the number of trips per taxi and locations of their trip origins. It provides important managerial information on the number of taxis needed on the streets, their best locations, and which cab is closest to the customer for swift and accurate service.

As shown in the MapPoint representation in Figure 2, County/Yellow Cab and Laclede Cab serve both the less-dense areas of the county and the more dense downtown areas.

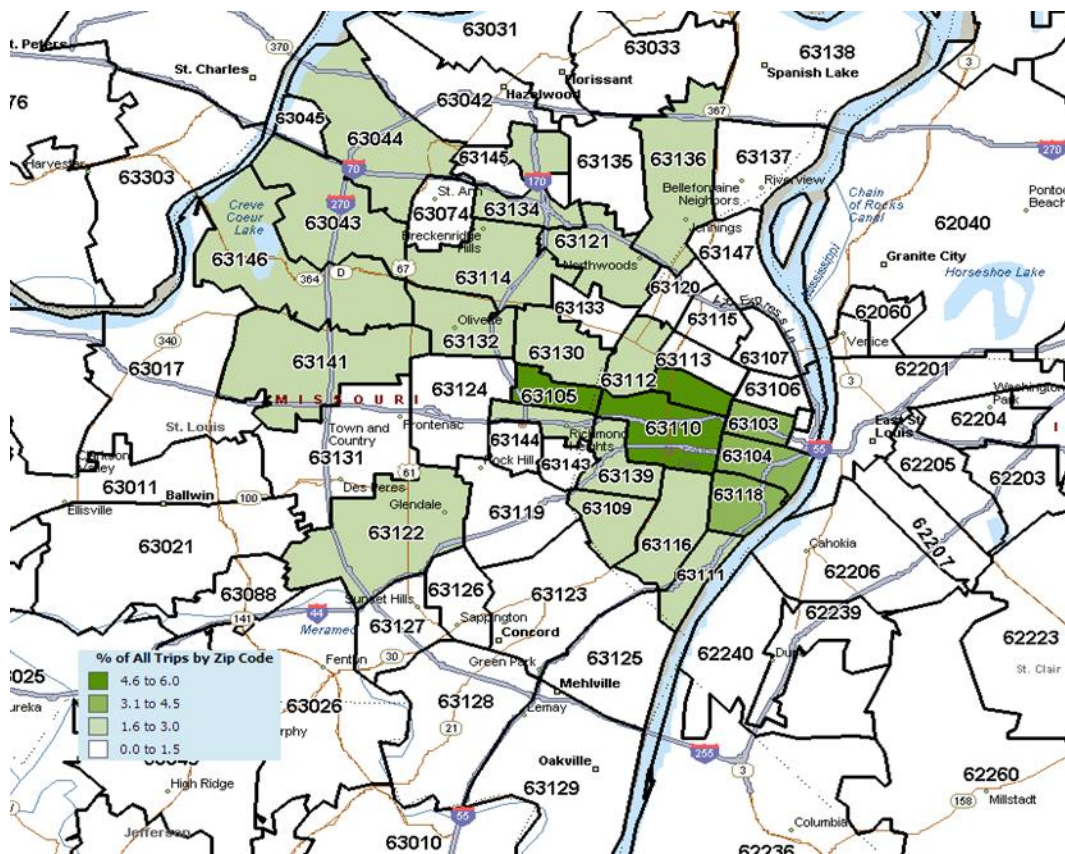


Figure 2. Country/Yellow Cab of St. Louis and Laclede Cab trips by Zip Code

It is expected that trips within the county have greater deadhead mileage and require more time than a taxi trip serving downtown areas. Utilizing the MapPoint software, it is possible to graphically display these data by Zip Code served.

As shown, dispatched taxi trips serve mainly the higher density areas of the county, rather than the less dense county areas. These central city and West End/Clayton Zip Code areas account for between 4.6 and 6.0 percent of their trips, with the rest of their service calls spread throughout

the entire region. These taxi services are primarily prearranged call and app trips and, therefore, depend upon the taxi company to accurately handle reservations and immediate calls for service.

The wait times for County/Yellow Cab and Laclede Cab are shown in Figure 3, and as expected within the heart of their primary service areas, individuals calling for immediate service have a wait time between 1 to 15 minutes, or an average of 7.5 minutes.

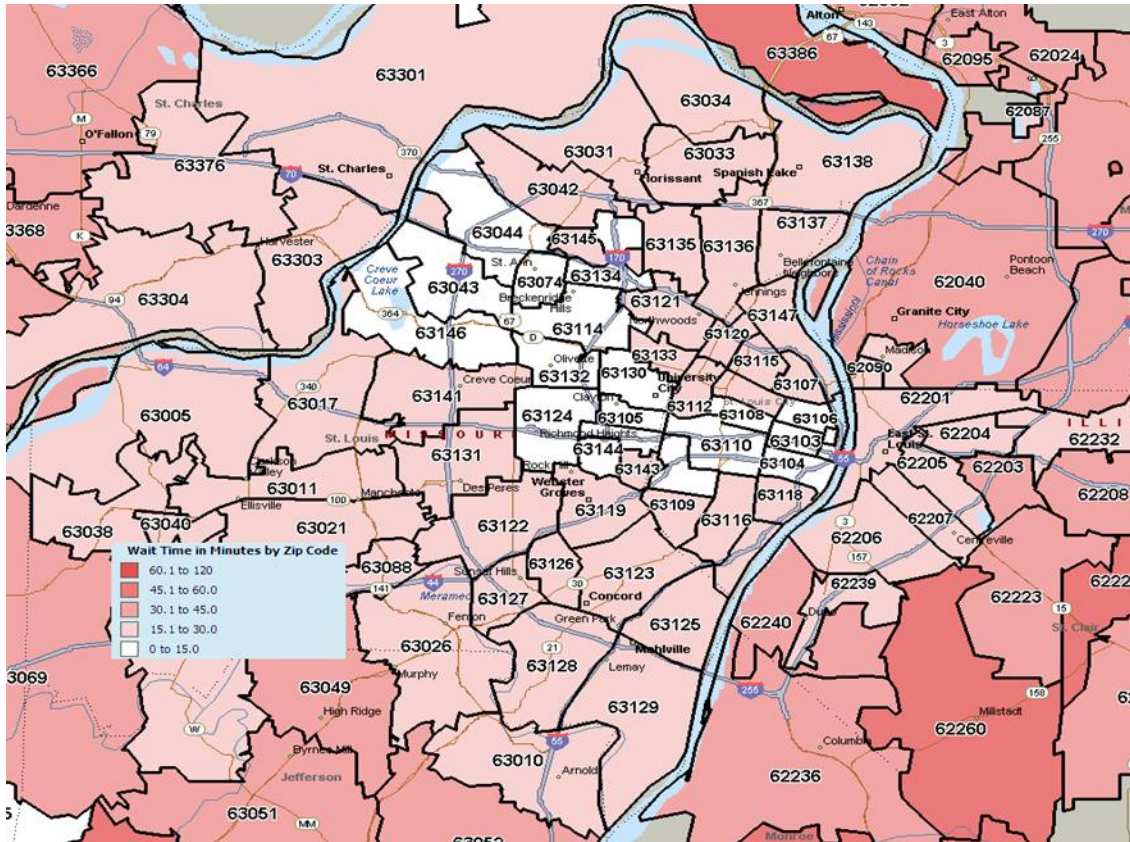


Figure 3. Wait time distribution in minutes by Zip Code for County/Yellow Cab Service and Laclede

Laclede Cabs serve their traditional downtown market and County/Yellow Cabs serve the less dense areas of the county. Those calling for a cab outside this immediate area, but still within their surrounding service area, can expect a wait time of between 15 and 30 minutes. These times would be considered good overall taxi service wait times, on average. There are times, especially on peak demand nights and occasions, when the wait time can be longer but this is expected due to supply and demand during these busy times.

The distribution of trips (shown another way in Figure 4), indicates that over half (55%) of the dispatch or app calls for taxi service from these two major St. Louis taxi companies are responded to and serviced within 15 minutes or less; 27% within 10 minutes or less. Overall, 85% of calls for taxi service are met within 24 minutes irrespective of where they are or time of day or night.

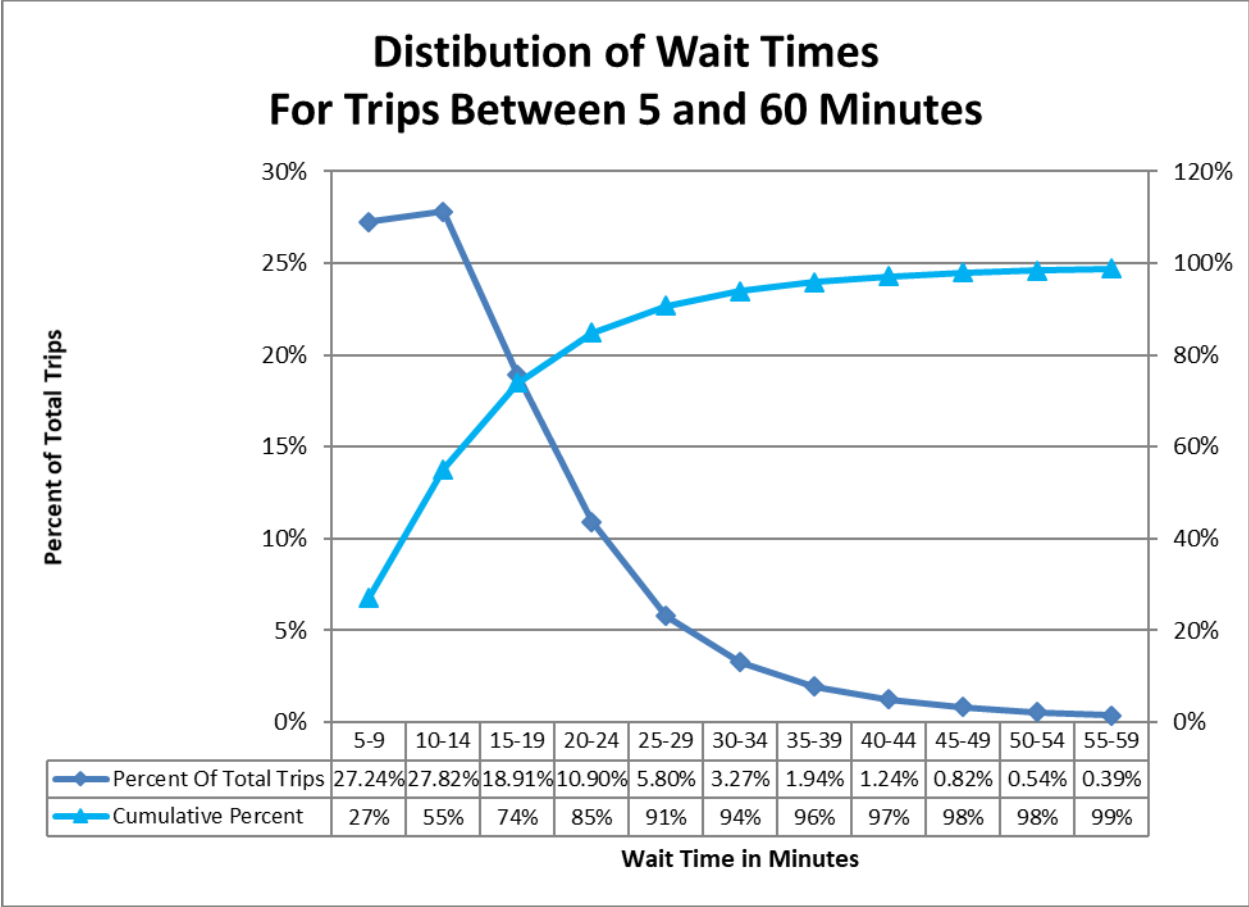


Figure 4. Distributions of wait times for trips between 5 and 60 minutes

Laclede Taxi

The second largest taxi fleet in St. Louis, Laclede Taxi, would also be considered a full-service taxi company. It has its own repair facilities, clean and modern company offices, and more recently a state-of-the-art dispatch system provided by Mobile Knowledge, an industry leader in comprehensive taxi dispatch technology and taxi apps.

Laclede Taxi has computer facilities for tracking calls, aggregating demand by Zip Code, and other operations, which have improved their operating efficiency. They have records of trips per day per vehicle, detailed areas of pickups and drop-offs, vehicle maintenance records, and a significantly better interface with customers via their new taxi app.

The Laclede system uses GPS to identify the closest taxi, track a taxi to ensure that the shortest route is being taken, or provide explicit driving directions to a customer’s desired pickup area. Finally, Laclede Cab has its own taxi app that performs the same functions as County/Yellow’s taxi app does, since it is provided by the same company: Mobile Knowledge. After just a short time, there were more than 20,000 individual users of this app.

Most vehicles owned and leased by Laclede are painted a bright red color, providing a common and familiar “fleet” appearance to the vehicles. The vehicles may be different makes and models, but the common color scheme is very distinctive and well recognized by users in the St. Louis City market.

As previously mentioned, Laclede Taxi is heavily concentrated in the downtown area where taxi-type trips are typically short, and the deadhead mileage and time to customer can be expected to be shorter than for County/Yellow Cab, which primarily serves the less-dense areas of the county and surrounding areas. Within the downtown area, callers to Laclede can expect a taxi to arrive within 5 to 15 minutes most of the time.

ABC Checker Taxi

The third St. Louis taxi company with electronic dispatch data is ABC Checker Cab, which has 99 permits, but operates only about 75 units in the summer due to the decrease in school activities. Much of ABC Checker’s business involves school transportation, so many of their drivers leave during the summer months and return in the fall for their school runs.

ABC Checker’s trip distribution (non-school, hails, or personals) is heavily concentrated in the northwest portion of the county, as shown in Figure 5.

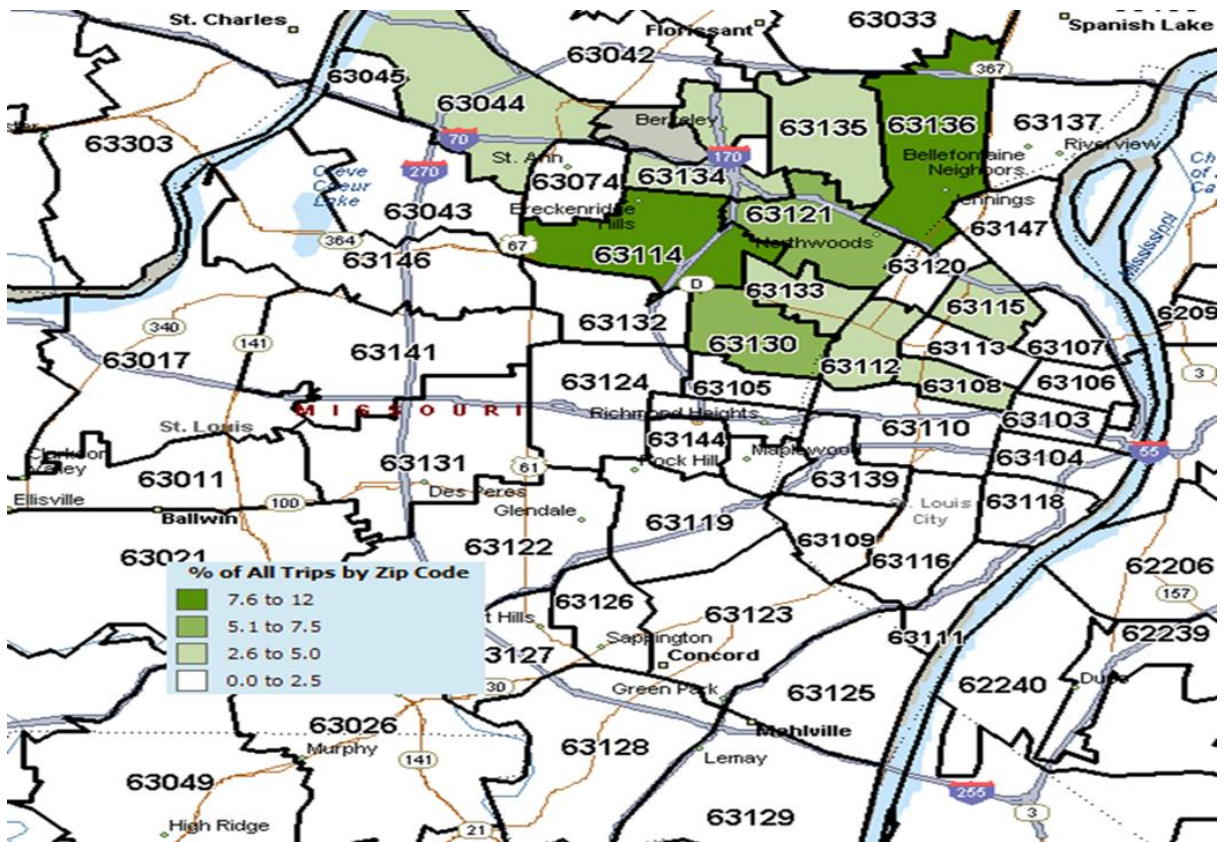


Figure 5. Checker trip distributions by Zip Code

It is not unusual for a smaller full-service taxi company to concentrate on just a portion of the service area with the intent of being well known and reliable in its primary service area. This appears to be the case with ABC Checker.

Wait time for an ABC Checker Taxi is normal for the lower-density neighborhoods in which it concentrates its services. As shown in Figure 6, however, callers can expect service within 15 to 30 minutes on average, no matter where in the city or county they live.

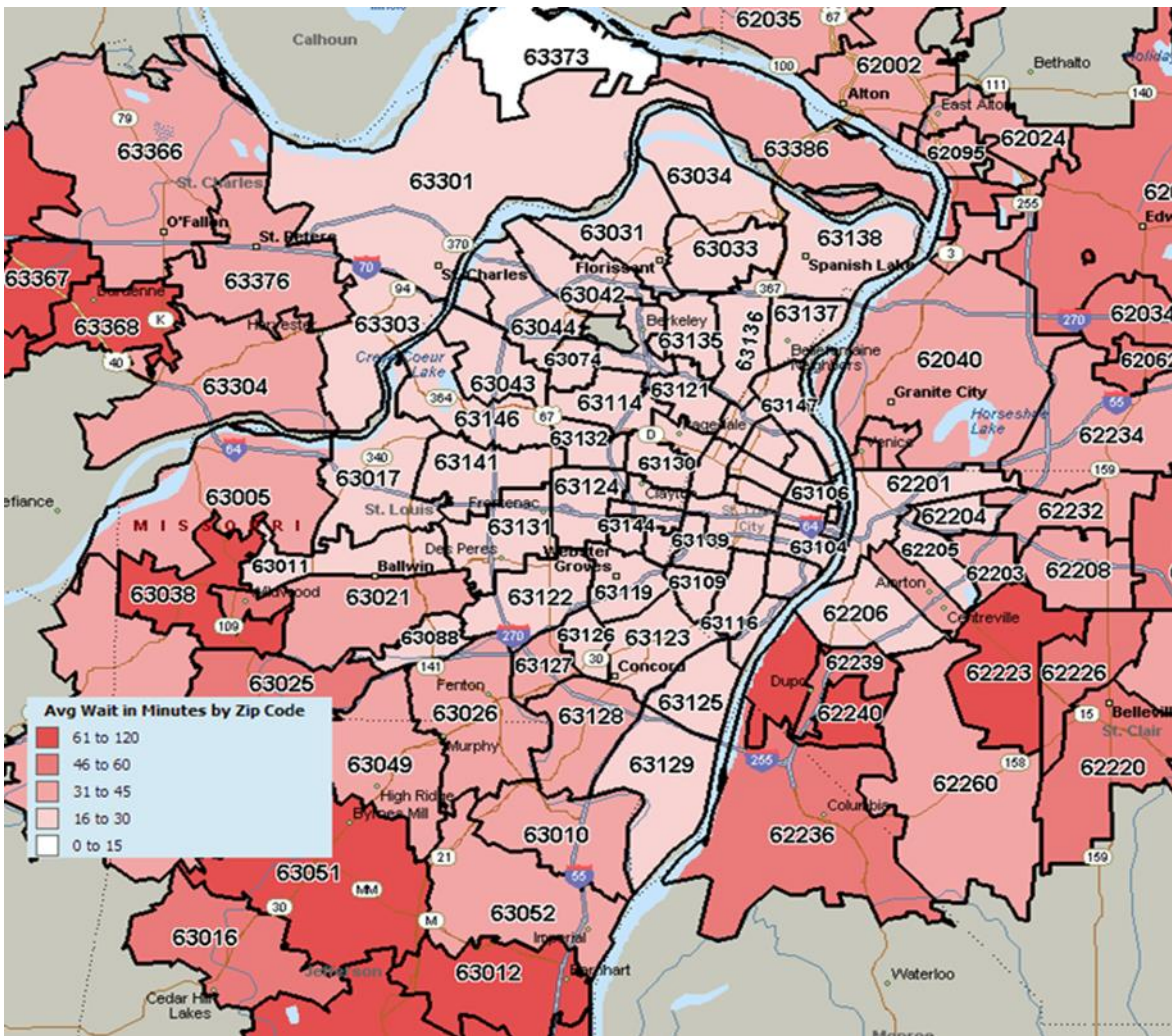


Figure 6. ABC Checker wait time map

St. Louis Taxi General Data Analysis

Data concerning average wait times, drivers, days worked, and trip details were gathered from all taxi companies and summarized in the graphs that follow, starting with the wait time by month in Figure 7.

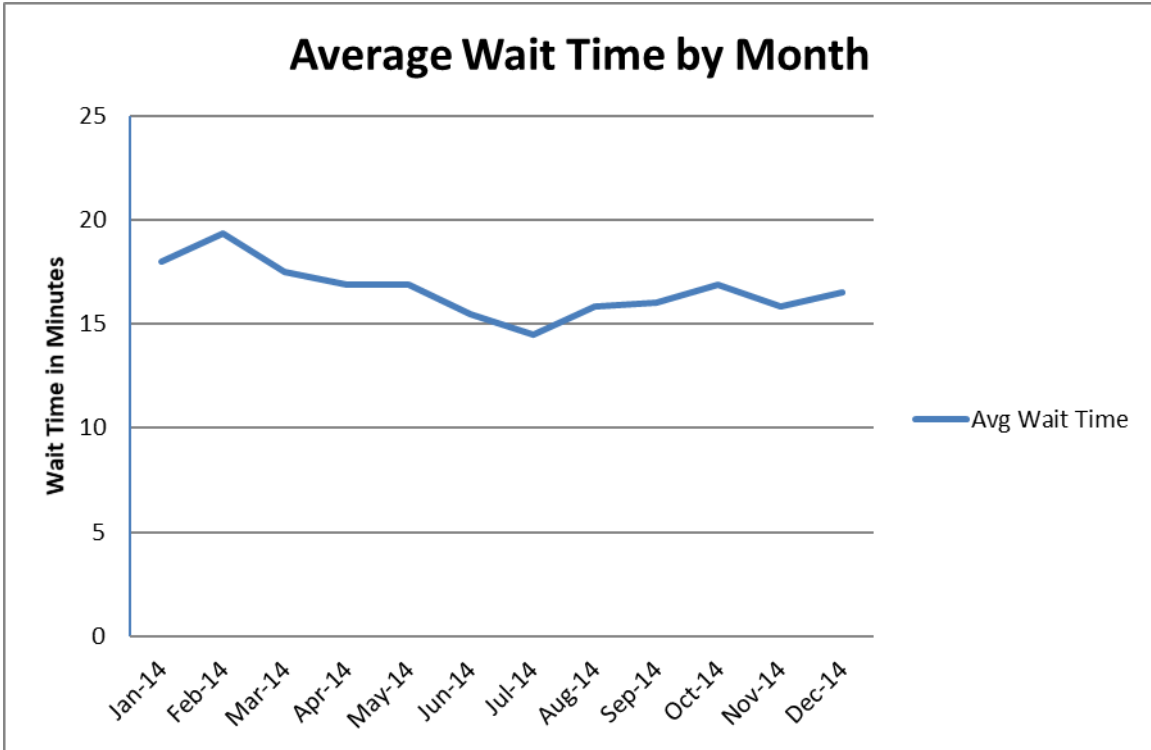
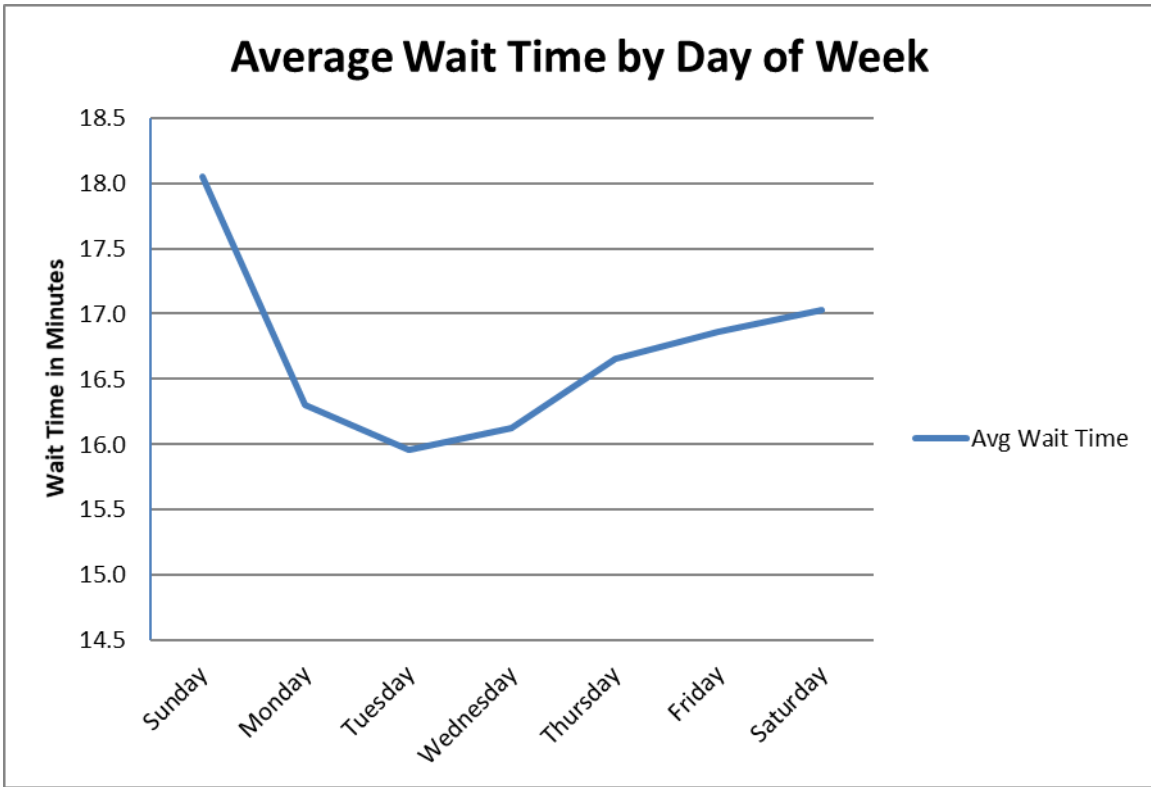


Figure 7. Average wait time by month

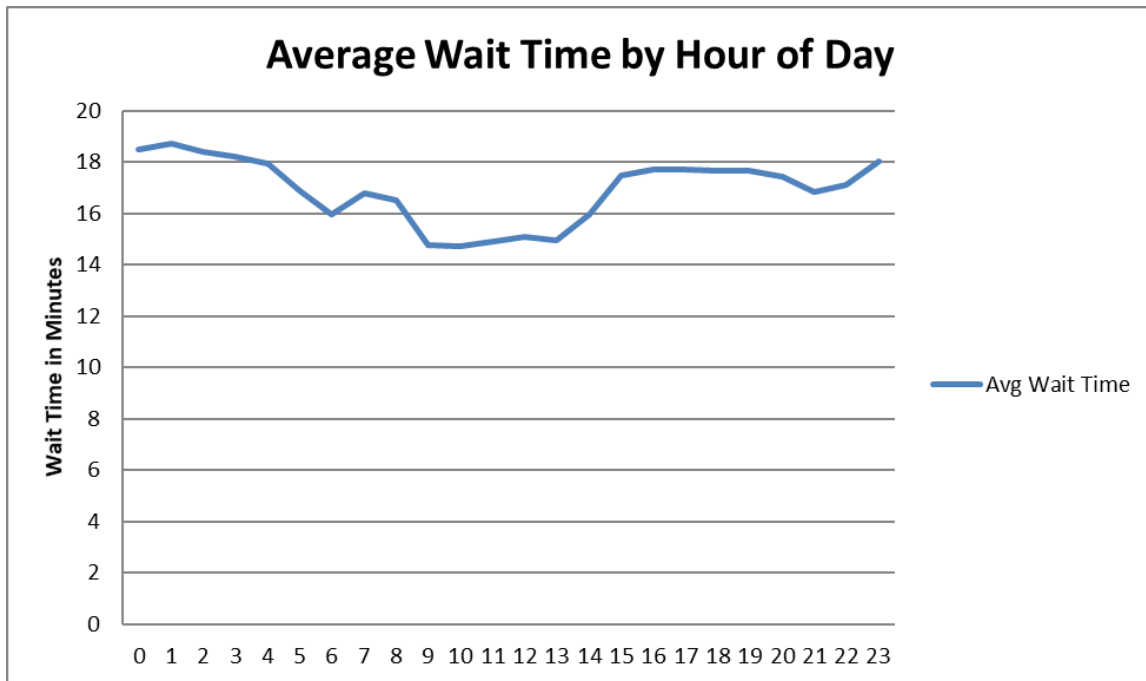
Checker, being considerably smaller than its primary rival in the county, does not yet possess the density of vehicles throughout the area and has a higher average wait time. This increases the average for the three taxi companies when wait times for all three are combined. All three averages, however, would be considered good taxi service times for a major metropolitan area with both a dense inner city and a low-density suburban area surrounding the downtown.

Also, as shown in Figures 8 and 9, these average wait times do not vary that much depending upon the day of the week or hour of the day. It should be noted that these are all call and app trips and do not include data for street hails and taxi stand pickups, which would considerably lower the average for taxi wait times if included.



Note: Data for 2014 from ABC Checker were not available for the months of January through April.

Figure 8. Average wait time by day of week



Note: Data for 2014 from ABC Checker were not available for the months of January through April.

Figure 9. Average wait time by hour of day

There appears to be some seasonal variation to taxi use in the St. Louis area, with a 20% decrease in taxi trips requested during the summer months of June, July, and August (Figure 10). Even with the strong downtown attraction of the St. Louis Cardinals, these summer months mean fewer trips and less income for taxi drivers.

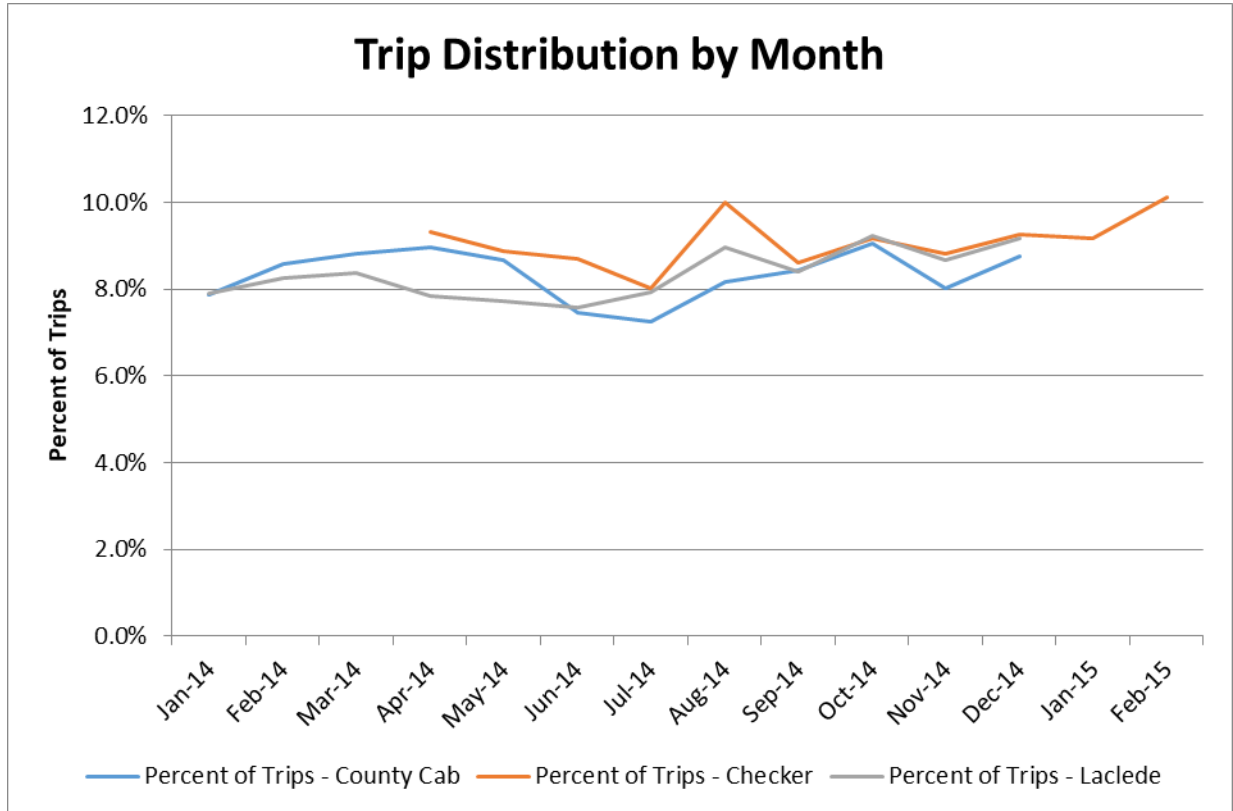


Figure 10. Trip distribution by month

Trip distribution by day of the week is what most would expect, with peaks on the weekend days as users need more taxis for evening dining, travel to the airport, and other trips requiring the use of a taxicab service, as shown in Figure 11.

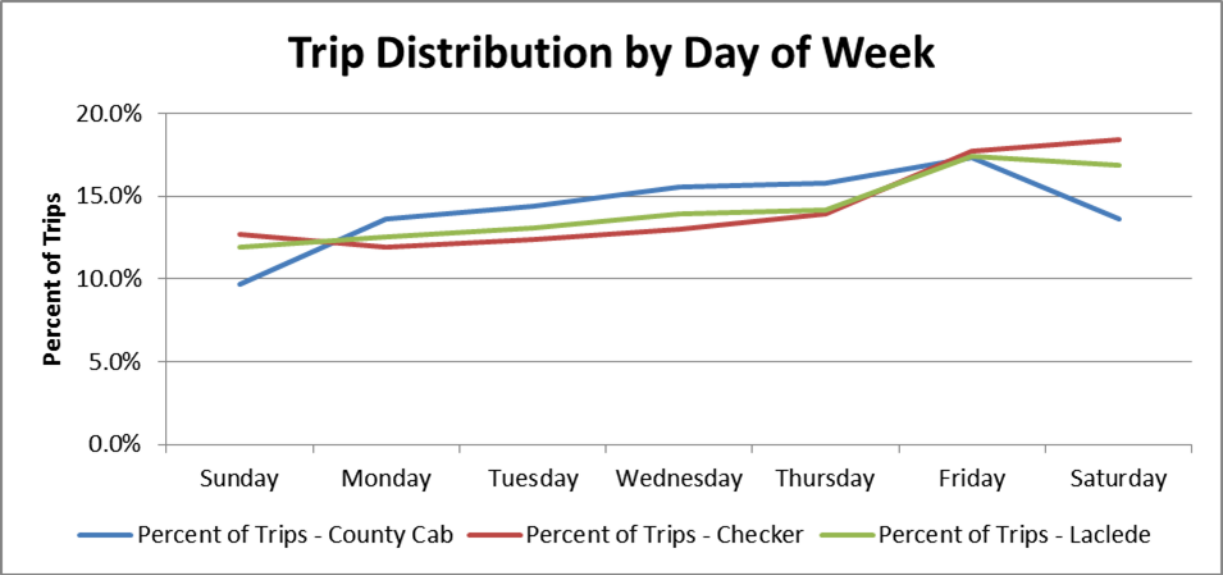


Figure 11. Trip distribution by day of week

Distribution of taxi trips by hour of day shows that the vast majority of trips are requested from 7 a.m. to about 6 p.m., as shown in Figure 12. This trend reflects the nature of local users who depend on taxi service for work trips, shopping, doctor’s appointments, etc., as opposed to visitors who depend on taxis for airport transportation, attending meetings, and evening dining.

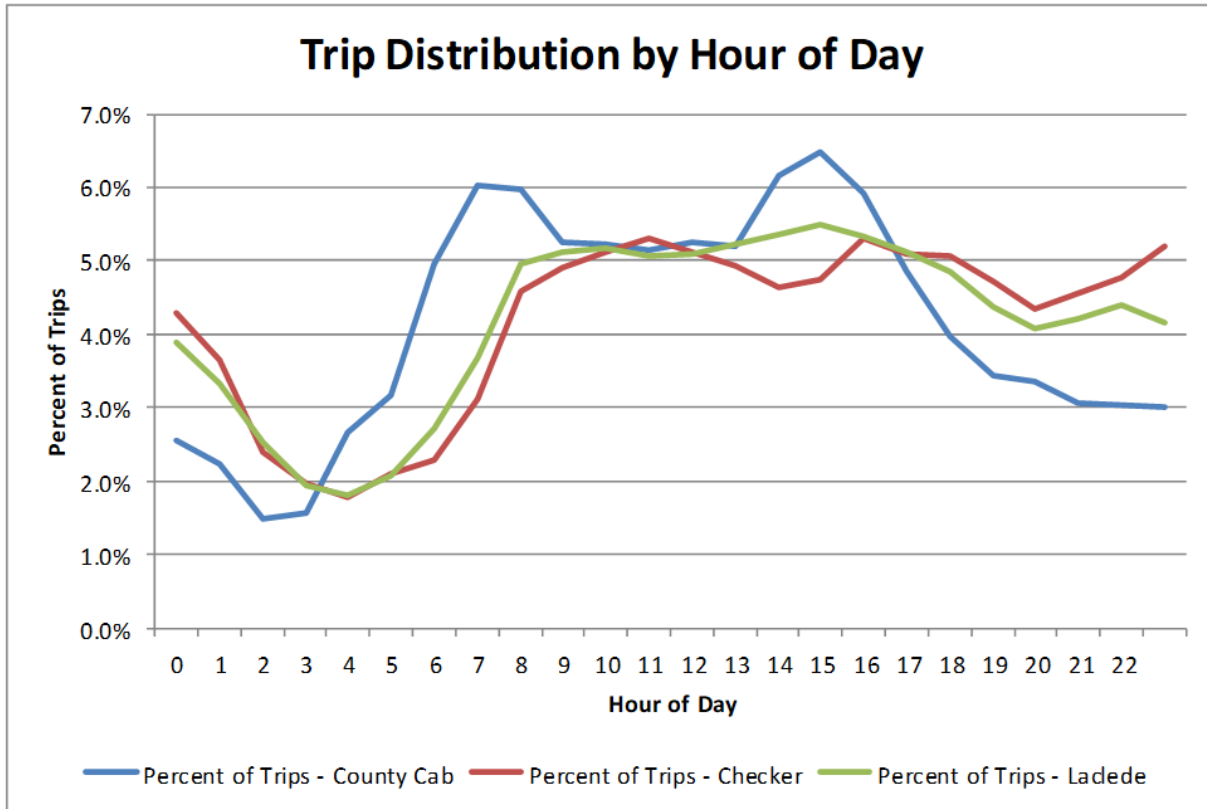


Figure 12. Trip distribution by hour of day

The average driver per vehicle in a taxi fleet gives us some idea of the efficiency and utilization of the taxi fleet. As shown in the graph in Figure 13, ABC Checker Cabs appears to have far fewer drivers per vehicle during summer months. This is easily explained by the significant amount of school business handled by the ABC Checker Cabs drivers during the regular school year.

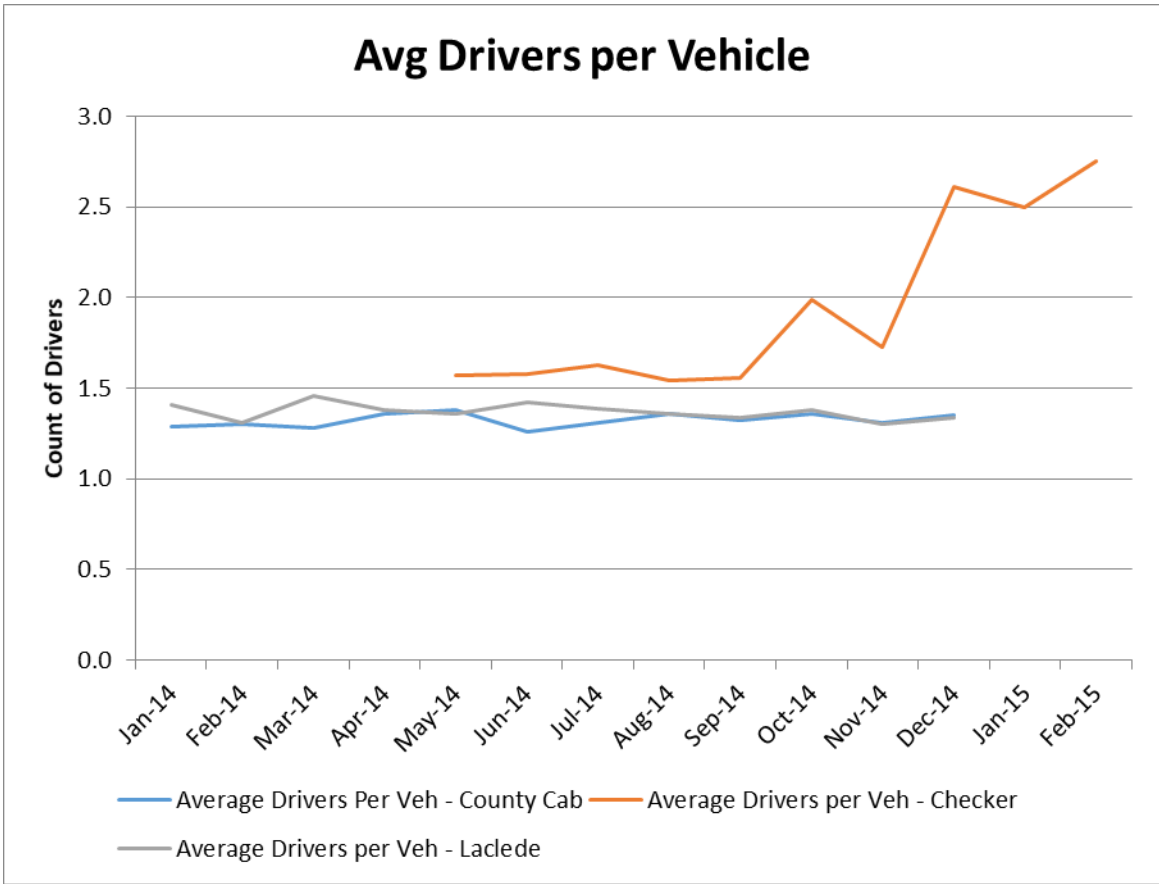


Figure 13. Average drivers per vehicle

Not all taxi drivers accept trips offered to them by dispatch. Some drivers prefer to work only the taxi stands and/or personals they have developed over the years. Many drivers are unwilling to spend time and fuel driving to a pick-up. The graph in Figure 14 shows the average drivers per day per taxi company.

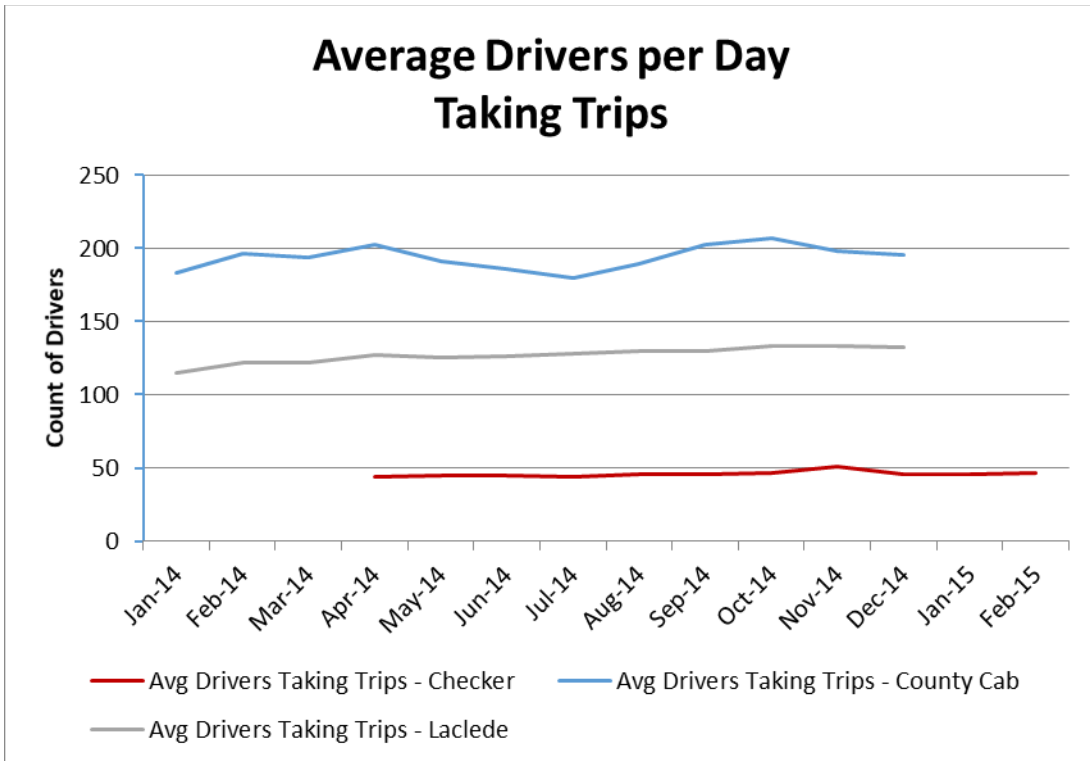


Figure 14. Average drivers per day taking trips

These data indicate that there is a solid core of everyday taxi drivers from each company who accept dispatch calls and participate in the delivery of taxi services to those using the telephone, internet, cell phone, or app to arrange for a taxi.

The chart in Figure 15 shows the average days worked per month for the St. Louis city and county drivers.

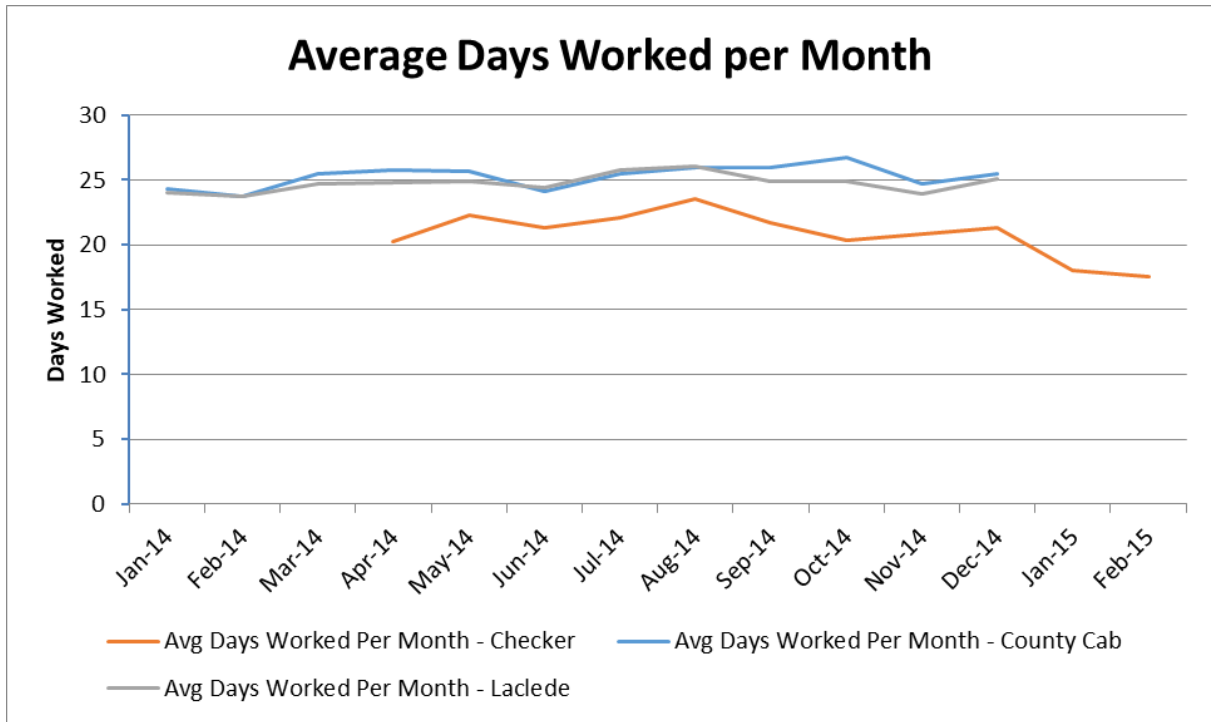


Figure 15. Average days worked per month

The graph shows that the Checker drivers are more likely to work fewer days on average during January, February, and March, but work a consistent 22 days per month the rest of the year. This is in contrast to County Cab and Laclede Cab drivers, who work the more traditional 6 days per week on average, or about 24 to 25 days per month. It is customary to lease a taxicab for 6 days and be given the seventh day free, or as stated alternatively, a seven-day lease is the price of the daily rate times six.

A critical measurement in the taxi industry is the number of trips a taxi driver receives from his or her dispatch system. This is what the taxi drivers are paid for: the business provided by their dispatch system. This is why comparing taxicab lease rates from city to city is somewhat meaningless. What should be measured is the amount of total revenue the driver can make working his/her permit and/or taxi lease. For the driver in a full-service taxi operation, it is the total number of call trips he/she makes every day that largely determines income. As shown below in Figure 16, the average number of trips per day accepted by County and Laclede Cab drivers is between 7.2 and 9 trips per day.

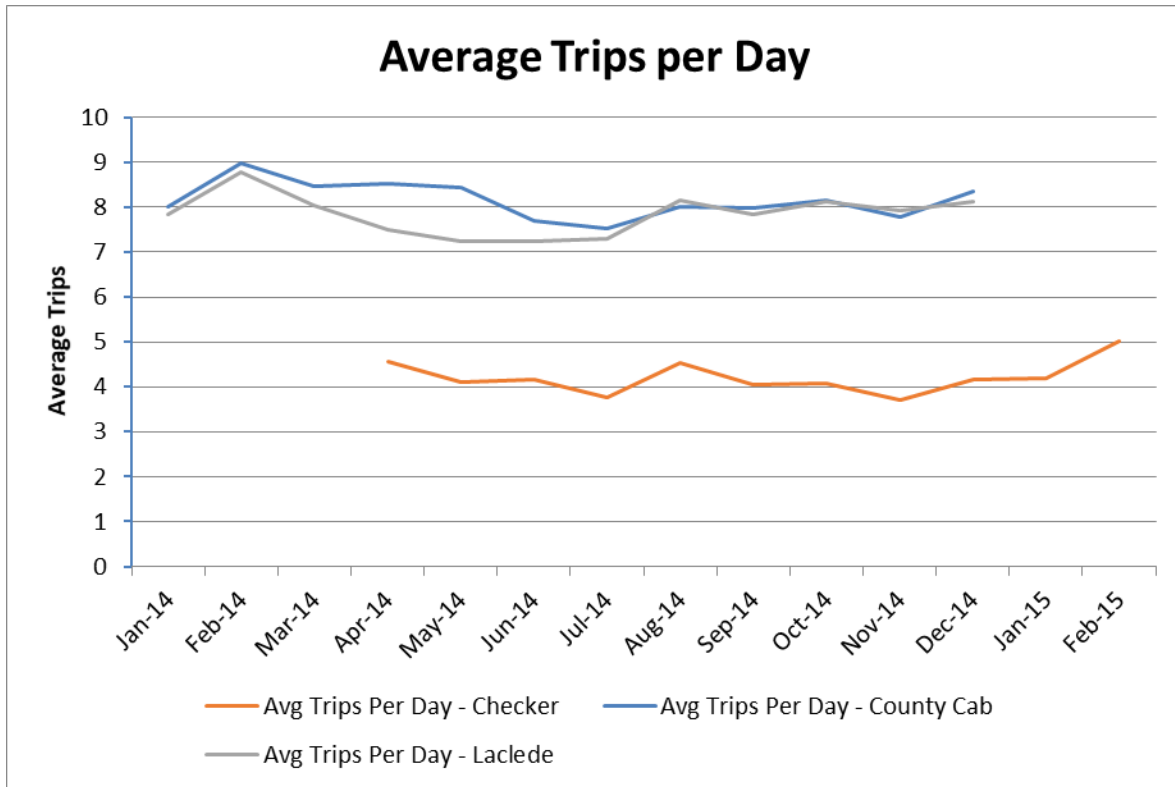


Figure 16. Average trips per day

Coupled with personals, some limited hail business, and stand trips per day, these drivers may average 14 or 15 trips per day. It should be pointed out that this is an average; some drivers do less than this, some veteran drivers do more, and some do much more, making over 20 trips per day. There is no way of knowing exactly how many total trips per day the independent taxi driver makes unless he/she keeps an accurate log of all trips. While this record keeping is required, the accuracy of these logs leaves a great deal to be desired, and they are not typically used in studies to determine taxi driver incomes.

Even though the average trips per day for ABC Checker Cab are roughly half that of its two larger competitors, that does not mean that incomes for ABC Checker Cab drivers are half those of the larger cab company drivers. The numerous scheduled school trips, personals, street hails, and trips from hotel stands that ABC Checker drivers make are not reflected in these data.

A final note on trips per day is that the 2008 study of County/Yellow Cabs and Laclede indicated the average or typical number of trips per driver per day was 9.2 overall. Thus, it appears that there has been a slight drop in the average number of dispatched trips per driver since the 2008 study was conducted.

Frequent User Surveys

The opinions of those who call a taxi for their clients were sampled in terms of the price, service, and vehicle appearance. This information is helpful in gaining an understanding of how these frequent users feel about the existing taxi service and individual provider companies, as well as any concerns they may have for the future of taxicab services within their community.

In this follow-up study, mailed questionnaires were utilized to obtain the opinions of those in St. Louis who frequently call a taxi for others. The questionnaires were distributed to community service institutions, restaurants and bars, hospitals, motels, and hotels within the St. Louis region.

Sampling Method

The convenient sampling method was used in this study. Surveys were mailed with a cover letter and a self-addressed stamped envelope for easy return. A total of 75 useable surveys out of 733 were returned for a response rate of 10.2%, which is slightly lower than the same survey used in 2007, but the number of useable returns is significantly greater. The response rate achieved was low in comparison with other communities, but it did provide a sampling of frequent users' opinions regarding the local taxi service in the St. Louis area.

Questionnaires

The questionnaires included several types of questions. The first part asked respondents which taxi companies they used most often. The second part included a series of close-ended questions with attitudinal (order) choice. These questions were used to gauge their views of taxicab arrival time, driver professionalism, vehicle quality, and so on. The last part consisted of open-ended questions asking respondents for any comments regarding their local taxicab service.

St. Louis Taxi Service Questionnaire Results

The following tables show a summary of the responses and ratings of local St. Louis taxi operations and their companies. Table 1 shows the results for the first questionnaire question on which taxicab companies that certain businesses favor. Other companies questioned through the survey included motels, nursing homes, bars, restaurants, emergency rooms and hospitals, and schools.

Table 1. Question 1 summary of taxicabs regularly called for service

Taxicab companies	Hotels frequency	Other companies frequency	All responses
Best Taxi Service	1	1	2
ABC/Checker Cab	0	14	14
Chesterfield Car Service	0	1	1
Harris Cab	3	10	13
Laclede Cab	5	33	38
Metropolitan Cab	2	13	15
St. Louis American Cab	0	1	1
St. Louis County/Yellow Cab	6	26	32
Wilson Taxi	0	0	0
Express Car Service	1	0	1
Logistical Medicaid Transport	0	1	1

Note: Other companies include motels, nursing homes, bars, restaurants, emergency rooms and hospitals, and schools.

As shown by these results, if one considers the number of calls from the survey, two St. Louis area taxi companies dominate the on-call market. Laclede Cab is the most frequently called taxi firm within the St. Louis region, with St. Louis County/Yellow Cab being the second most frequently called company. This could be expected given the relative size of these two firms. Laclede and County/Yellow Cab companies are full-service taxi companies with extensive marketing programs, modern dispatching technology, and management personnel to promote their firms within the area. However, Metropolitan, Harris, and Checker are also mentioned frequently, indicating a healthy distribution of calls going to five taxi companies. These top five cab companies are more likely to have various voucher programs with area firms and numerous contracts for service with local agencies. Laclede, Country/Yellow, and now Checker Cabs have active taxi app programs for those wishing to use the latest method for summing and paying for taxi services. Metropolitan is also pursuing a taxi app for their services. The smaller St. Louis cab companies do, nevertheless, have active dispatch systems for on-call taxi requests.

Table 2 shows the responses to the second survey question on the average wait time for a taxicab to arrive at the establishment after one is called.

Table 2. Question 2 summary of average wait time

Average wait time	Hotels results		Other companies results		All results	
	Number	Percent	Number	Percent	Number	Percent
Less than 5 minutes	1	10%	2	3%	3	4%
5–10 minutes	1	10%	3	5%	4	6%
10–15 minutes	6	60%	14	23%	20	28%
15–20 minutes	1	10%	18	30%	19	27%
20–30 minutes	1	10%	16	26%	17	24%
More than 30 minutes	0	0%	8	13%	8	11%

Note: Other companies include motels, nursing homes, bars, restaurants, emergency rooms and hospitals, and schools.

As shown by the answers above, the response time experienced for taxi service at the respondent establishments would be considered good for hotels. Eighty percent of these respondents indicated they could expect a called taxi within 10 to 15 minutes. The most common wait time for all respondents indicated that it was within 10 to 15 minutes after being called. However, over 35% of the respondents indicated that the wait time was 15 minutes or more. It should be noted, however, that this level of service represents only those taxi firms mentioned as the ones typically called by these establishments. One would assume, however, that through trial and error, these taxi firms would be the preferred taxi firms due to their ability to respond to their calls.

Table 3 shows the responses to the third survey question on what the respondents believe to be a reasonable wait time to receive taxi service to their establishment.

Table 3. Question 3 summary of expected reasonable wait time

Average wait time	Hotels results		Other companies results		All results	
	Number	Percent	Number	Percent	Number	Percent
Less than 5 minutes	0	10%	2	3%	2	3%
5–10 minutes	5	10%	13	5%	18	25%
10–15 minutes	5	60%	24	23%	29	40%
15–20 minutes	0	10%	17	29%	17	24%
20–30 minutes	0	10%	6	27%	6	8%
More than 30 minutes	0	0%	0		0	

Note: Other companies include motels, nursing homes, bars, restaurants, emergency rooms and hospitals, and schools.

In addition to average wait time for a taxicab, the respondents were asked about a reasonable wait time for a taxicab. As shown by the responses above, the most common reasonable wait time indicated was 10 to 15 minutes after being called. Over 36% of the respondents indicated

that wait time of 20 minutes or more is reasonable. Based on the survey, the average wait time for taxi services meets the current expectations of the business establishments calling in for the taxi services.

Table 4 shows the responses to the fourth survey question, asking the businesses to rate the service of the taxicab companies.

Table 4. Question 4 rating current taxi service

Rating variable	Hotels	Other companies	All responses
Promptness	4.1	3.4	3.7
Answering phone	3.6	3.8	3.7
Courtesy	3.8	4.0	3.9
Driver appearance	3.6	3.8	3.7
Willingness to pick up	3.9	3.9	3.9
Handling complaints	3.0	3.5	3.2
Vehicle appearance	3.8	4.0	3.9
Fairness	3.9	3.8	3.9
Credit cards	4.5	3.7	4.1
Age of vehicles	3.8	3.8	3.8
Affordability	3.6	3.4	3.5

Rating scale: 5 = Very Good, 4 = Good, 3 = Okay, 2 = Poor, 1 = Very Poor

Note: Other companies include motels, nursing homes, bars, restaurants, emergency rooms and hospitals, and schools.

Figure 17 compares the responses from Question 4 between the hotels and the other companies.

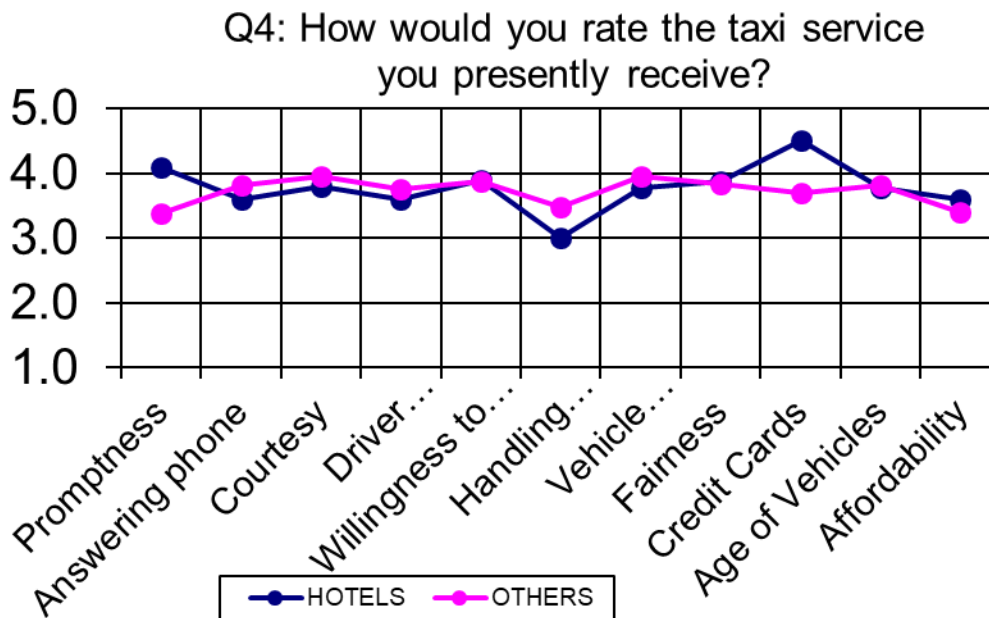


Figure 17. Comparison of Question 4 responses

As shown by these responses, there appears to be a feeling that taxi services are “good” on most attributes except affordability and complaint resolution. Respondents appear to agree that the taxi firms they call are good about consistent arrival and promptness. Affordability of taxicab services seems to be a concern among the users. For a service industry such as taxicabs, customer responses of “okay” for complaint resolution are not sufficient to attract repeat customers.

Tables 5 through 7 show the responses to Question 5 that included several queries on how the hotel companies surveyed arrange taxicab services, specifically for airport transfers. Of those who responded yes, two of those surveyed also included their method of reaching out to taxi companies (Table 7).

Table 5. Question 5 responses on whether hotels arrange airport transfers for guest

Guest arrangements	Response	Percent
Yes	5	50%
No	5	50%

Table 6. Question 5 responses on taxicab companies called for guest arrangements

Company	Responses
Best	2
Go Best Express	1
County/Yellow Cab	2

Table 7. Question 5 responses on how guest arrangements made

Arrangement method	Number
Phone call	1
Internet booking	1

Table 8 shows the responses to Question 6 on whether the hotels provide another form of ground transportation, such as courtesy shuttles, for guests.

Table 8. Question 6 responses on whether shuttle services are offered

Shuttle services	Response	Percent
Yes	5	50%
No	5	50%

Table 9 shows the responses to Question 7 on whether the hotels arrange another form of ground transportation, such as shuttles, limousines, buses, or vans, for guests.

Table 9. Question 7 responses on whether other transportation arrangements are made

Other arrangements	Response	Percent
Yes	4	40%
No	6	60%

When a follow-up question was asked on how those arrangements were made, two stated they relied on Best Taxi Service, and one stated it scheduled services but did not identify which company they schedule services with.

One attribute of poor taxi service in a community is the extent to which alternatives are sought after by those arranging ground transportation for their guests. Based on the responses provided by the hotels, half of the respondents arrange airport transfers for their guests and do provide other forms of ground transportation, such as courtesy shuttle services. Only 40% of the hotels arrange shuttle, limousine, and bus or van service for their guests. However, in general, these responses indicate that the current taxi providers need to improve their service offerings in order to completely satisfy this demand for ground transportation services.

Tables 10 through 12 show the responses to Question 8, where the surveyed companies were able to offer their own comments; the responses are categorized as positive, negative, or neutral, and the responses are included.

Table 10. Hotel responses to Question 8 offering comments

Comments	+	-	n/a	
Be more prompt.		1		
We are often told that they are too backed up and will not take the fare. We have no options. Express Car Service will only go to airport. It is ridiculous to have to tell a customer that there are no other options because the one company we have access to is too busy!		1		
See the letter attached with the report.			1	
	<i>Total</i>	0	2	1
	<i>Percent</i>	0%	67%	33%

Table 11. Other companies’ responses to Question 8 offering comments

Comments	+	-	n/a	
When picking up a student, the student was a few minutes late and the taxi left.		1		
Harris Cab has been excellent in the past. But recently the service has deteriorated. Laclede cab is mediocre at best.	1			
Leaving too early or coming too late - not always.		1		
Cab service is used to transport some of our students to/from our school. A few of the drivers have been rude to my staff. Some do not wait for students to put on seatbelts before leaving. We currently have a driver (Feb–March 2015) who is excellent, courteous, and kind to our staff and students.	1			
All Cab drivers need to be required to wear their Cab ID badge at all time. Some get mad because they have to go back their car. Get the ID badges before we a release a <u>child</u> to them.		1		
Cab companies overall are very slow and are scarce in Soulard in general.		1		
Students arrive too early and taxis are often late in picking up our students.		1		
Taxi cabs need to pick up kids on time when school dismisses at St. Louis Public Schools. Many times Harris Cab drives are late for picking up students.		1		
Trips to airport and back are becoming so expensive; it is ceasing to be an option.		1		
As a receptionist, I observe our residents, employees, and visitors coming and going via cabs. The service seems to be acceptable to good. I do know that it is very expensive for our residents who are on very limited incomes.		1		
Have had no problems.			2	
I believe that the initial rate should only apply when there are two or more individuals on the trip. Also, the cost per mile could be a little bit cheaper.		1		
Most drivers are eager and willing to drive our guests and are usually very patient if they have to wait for guests to exit the restaurant. There has been a big improvement with fairness of the taxi service. At one time some cabs were a disgrace. Now, they are mostly good.	1			
The average wait time for taxi cab to arrive at the establishment after being called is 10–15 minutes. However, when downtown is busy, they take too long.				
During high school activities, if more people were to answer phones, it would help.		1		
Best Taxi is always punctual. For other services, it is very common to be quoted up to an hour wait times.	1			
We are elementary schools with families in transition; timely pickups are essential for these families that are already under tremendous stress...especially the children!			1	
We primarily rely on service for our families who are in transition. There have been some hiccups but issues have been resolved promptly.			1	
Communicating the wait time to customers is crucial.			1	
The receptionist has always been extremely rude. They do not understand the meaning of customer service or general appropriate behavior.		1		
First complaint is that the taxis don’t show up. They refuse my guests because the fare is too low (downtown to my B & B). They won’t take a reservation. They will only take a call 15 minutes from pickup time. Guests are often <u>driven</u> all around town because drivers can't find my B&B. Attempts at giving directions are often met with defensiveness and rudeness.		1		
As a restaurant group, it is essential that cabs can reach our customers when they need them. We often suffer the brunt of the complaints when taxis take too long to arrive, regardless of how much advance warning we give the taxicab companies. This behavior negatively affects the guest's experience with us, and potentially hurts future business.		1		
The service is embarrassingly slow. We are a fine dining restaurant. Our guests have had to wait upwards of 45 minutes for a taxi. At times the taxi has cancelled even after a long wait. At times the answering service has been rude as well.		1		
	<i>Total</i>	4	14	5
	<i>Percent</i>	17%	61%	22%

Table 12. Question 8 response ratings combined

Responses	Number	Percent
+	4	15%
-	16	62%
n/a	6	22%

These questions represented an opportunity for respondents to provide any written comments regarding St. Louis's taxi service and taxi companies. These comments are broken down into positive, negative, and neutral comments. As shown, some comments appear to offset other's experiences. One respondent praises a company highly, while another feels it needs considerable improvement.

As one would expect overall, however, these comments are mostly negative regarding taxi service. This is expected since users of any service are much more likely to tell friends or relatives about a negative experience as opposed to a positive experience. As noted, the comments from the respondents are mostly geared towards timeliness of taxicab service, affordability, and general courtesy from drivers as well as operators (receptionists). And in most cases, there is no indication of which taxi company the respondents are discussing. Of the major full service taxi companies within this study, all had a system in place for the managing director of the firm to receive all complaints and respond to them immediately if possible.

Table 13 shows the responses to Question 9, where the respondents were asked if they utilize limousine services.

Table 13. Question 9 responses on whether limousines are used

Response	Number	Percent
Yes	6	8%
No	69	92%

When the companies were asked to list which limousine services they used, four mentioned three different companies. Two mentioned Best, one each mentioned Jed and Fun Time services.

Table 14 shows the responses to Question 10 from those surveyed on how they rate the limousine services they currently receive.

Table 14. Question 10 responses rating current limousine services

Rating variable	All responses
Promptness	4.8
Answering phone	4.6
Courtesy	4.5
Driver appearance	4.5
Willingness to pick up	5.0
Handling complaints	4.0
Vehicle appearance	5.0
Fairness	4.3
Credit cards	0.0
Age of vehicles	4.5
Affordability	4.0

Rating scale: 5 = Very Good, 4 = Good, 3 = Okay, 2 = Poor, 1 = Very Poor

One respondent to Question 10 also offered a positive comment along with their rating. The comment reads, “Jed limo is good. The limos and the drivers we use are excellent. A few years ago, we had some cab drivers wanting to get paid to bring people to Tony's. None now that I know of. But the ones who we wouldn't pay off may still be out there.”

According to the respondents, 92% do not use limousine services. The respondents that do use the limousine services indicated that the services provided were “very good” and “good.” The users of limousines seem to be satisfied with the services provided.

Comparison of Frequent Survey Results – 2015 versus 2008

In 2008, the Tennessee Transportation and Logistics Foundation (TTLF) conducted a St. Louis Taxi Study. As a part of the study, a frequent user survey was distributed to community service institutions, restaurants, resorts, and hotels within the city of St. Louis. Comparison of the frequent user survey results indicated that in 2015, Laclede Cab had overtaken St. Louis County/Yellow Cab as the most frequently called taxi firm within St. Louis County.

According to the 2008 survey results, the most common wait time indicated was 15 to 20 minutes. As per the 2015 survey results, the most common wait time cited was 10 to 15 minutes. It can be inferred that the wait time for taxicabs has improved significantly over the past seven years. The decreased wait time could also signal higher customer satisfaction. The reduction in wait time over the years can be attributed to the promptness of the taxicab industry as mentioned below.

Similarly, the 2008 survey respondents indicated that all of the service attributes range from “okay” to “good” except promptness and complaint resolution. The 2015 survey results indicated that all of the service attributes are “good” except affordability and complaint resolution. Based on the survey results, complaint handling seems to be an ongoing issue in the taxicab industry. This weakness offers the taxicab industry an opportunity to improve its services and regain the

trust of the frequent users of taxicabs. Inability to handle complaints appropriately can ultimately lead the customers to abandon the taxicab industry and look for alternatives.

Finally, according to the 2008 survey results, over 50% of the respondents arranged for specific ground transportation or felt the need to operate their own services. The 2015 survey has identical results. In general, these responses indicate that the current providers are not always able to satisfy the current demand for ground transportation services in a manner preferred by frequent users, but it also suggests that the service is improving.

St. Louis Taxi Study, Public App User Survey

Introduction

Taxi Research Partners Ltd. (TRP) was commissioned to administer a public survey of taxi users in the city and county of St. Louis, Missouri. The work was completed under the contract with the University of Missouri–St. Louis (UMSL), as a part of a taxi study project for the St. Louis Metropolitan Taxicab Commission (the commission). The work involved a survey questionnaire using online collection methodology described below.

Methodology

An online survey was agreed upon with the commission and UMSL, seeking to categorize the current use of taxi and limousine services and their alternatives, across the city and county of St. Louis. A focus was placed on the quality of services received, as well as the potential for app-based bookings, and experiences in using apps.

Respondents were contacted using details provided to the team based on existing registered app users using an email link to an online survey. The respondent list was created and reflects existing app users. Measures were put in place allowing for single entries only from each IP address, reducing the possibility of the same respondent entering responses multiple times. The team used the Survey Monkey platform, and this was personalized to invited respondents to remove the possibility of additional uninvited responses.

Valid responses were received from 1,370 respondents. A very small number of returns that did not include any completed answers were also received, and these were removed from the survey analysis.

Responses

Figure 18 highlights the survey results with regard to public satisfaction with taxi services in St. Louis. The question asked was, “Thinking about your recent trips by TAXI, how well do you feel your taxi company performed? Please indicate a score for each factor.”

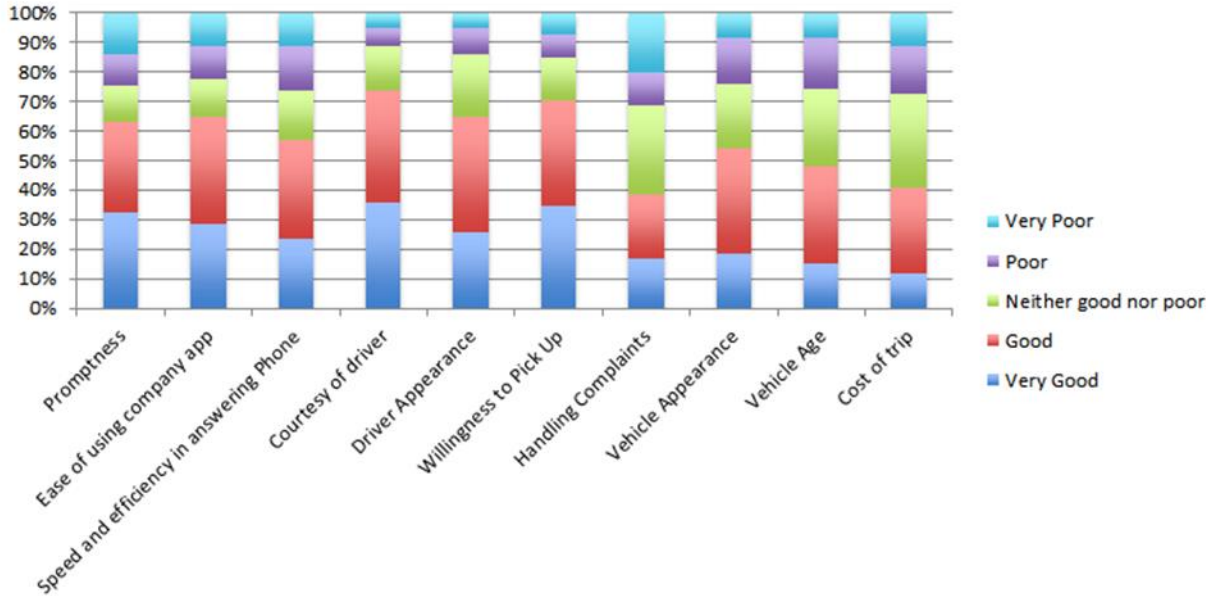


Figure 18. Public satisfaction with taxis

The majority of respondents expressed satisfaction with a response of “good” or “very good” for most factors. It is notable that the responses were less favorable for cost of the trip, which generally lies outside the control of the taxi driver or company. Responses were also less favorable for age of vehicle, which may be a legitimate concern for the commission and the companies. The worst performing factor was “handling of complaints”, which had the lowest approval rating.

The same questions were asked about limousine use (Figure 19), which exhibits a similar pattern concerning the cost of the trip. There is also a small concern over the handling of complaints. The question asked was, “Thinking about your recent trips by LIMOUSINE, how well do you feel your Limo company performed?”

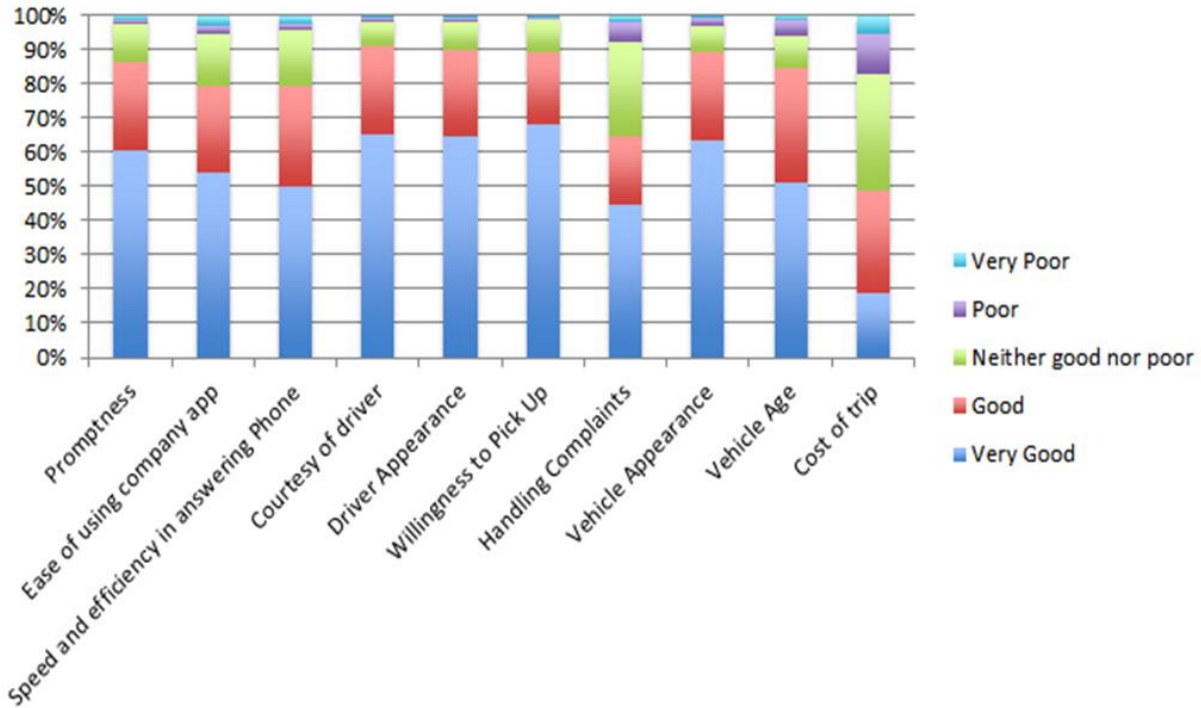


Figure 19. Public satisfaction with limousines

The overall satisfaction levels for limousines are significantly higher than those for taxi services, which may reflect the “premium product” nature of the limo industry. However, this should also highlight an opportunity for taxi companies to improve service responses. A significantly higher number of taxi users rated service levels as “poor” or “very poor,” for an average of 20% of all responses compared to 6% in the case of limousines.

Figure 20 shows survey results for the taxi companies that respondents choose throughout the St. Louis area.

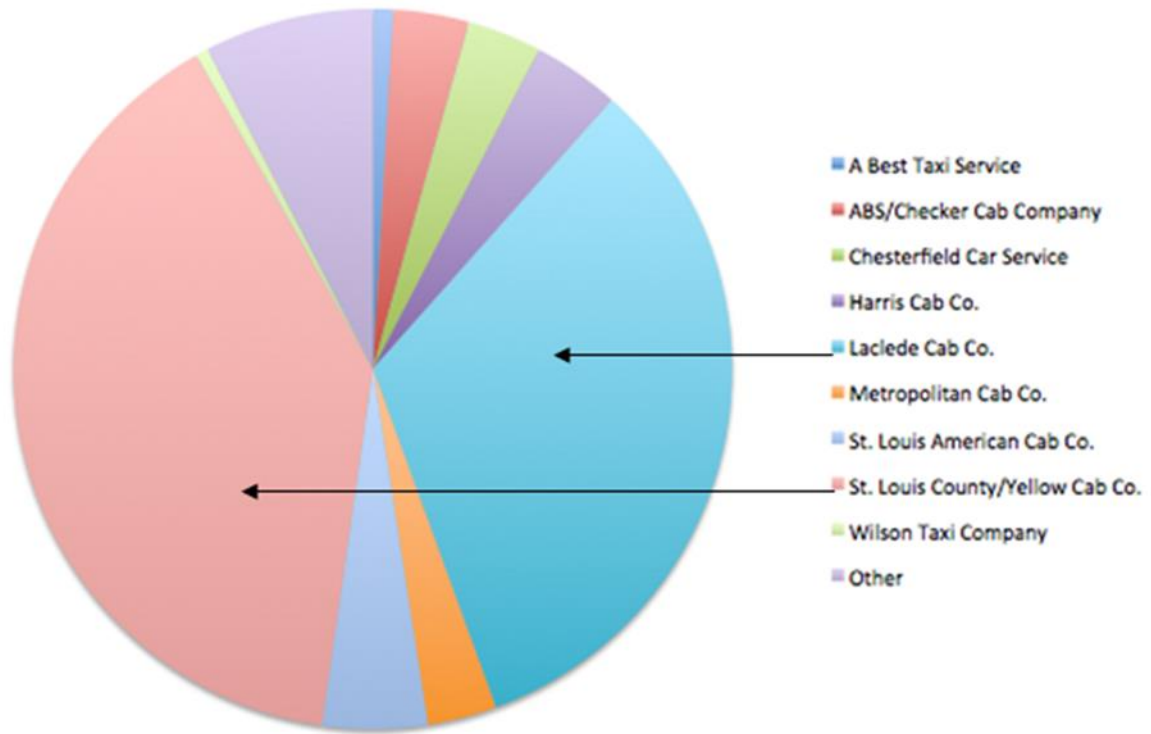


Figure 20. Taxi company choice

Figure 21 shows the survey responses for how recently respondents have utilized taxicab services in St. Louis city or St. Louis County.

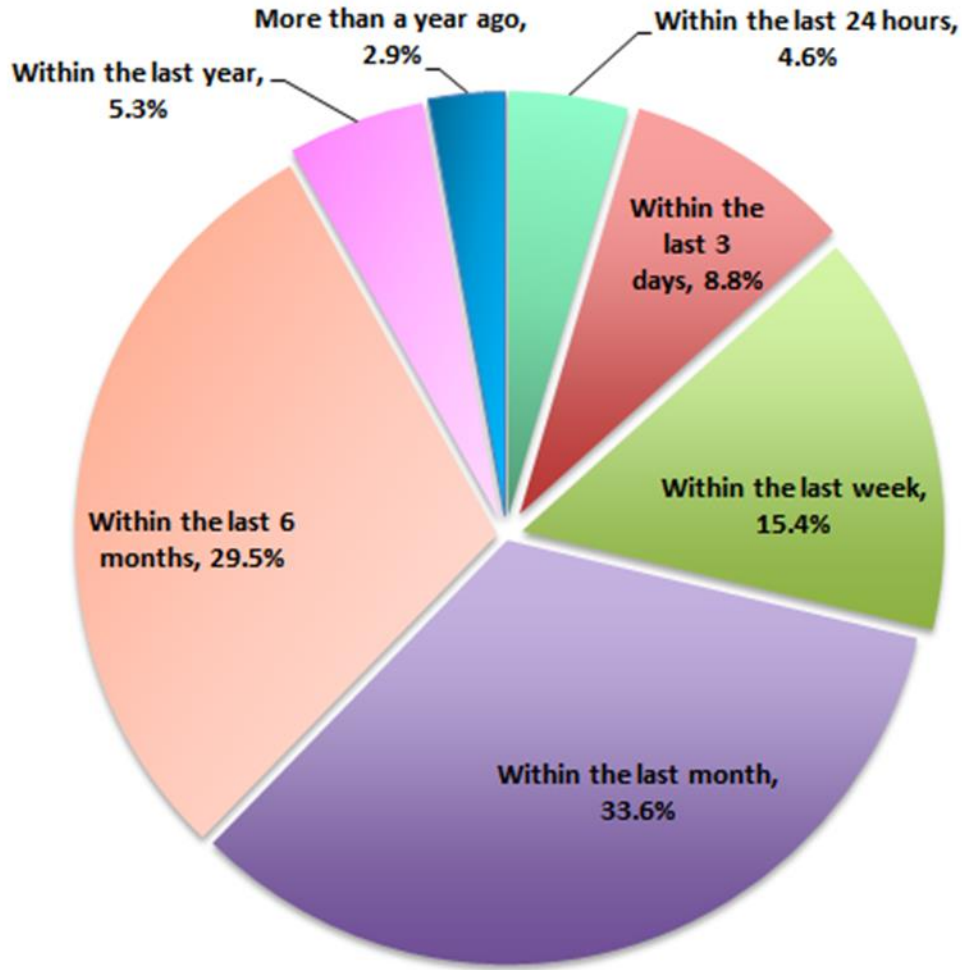


Figure 21. Last taxi trip in St. Louis or St. Louis County

Responses indicated a significant dominance of two major taxi companies serving St. Louis, Laclede and County/Yellow, reflecting the relative market position of these larger companies in the St. Louis metro area, with the largest group of respondents (34%) having used a taxi within the last month.

Current respondents were also far more likely to use “regular” taxis, which are essentially sedan vehicles rather than accessible vehicles or limousines (see Figure 22). This may reflect the extent to which such vehicles are available in the St. Louis market, and also upon the respondent base.

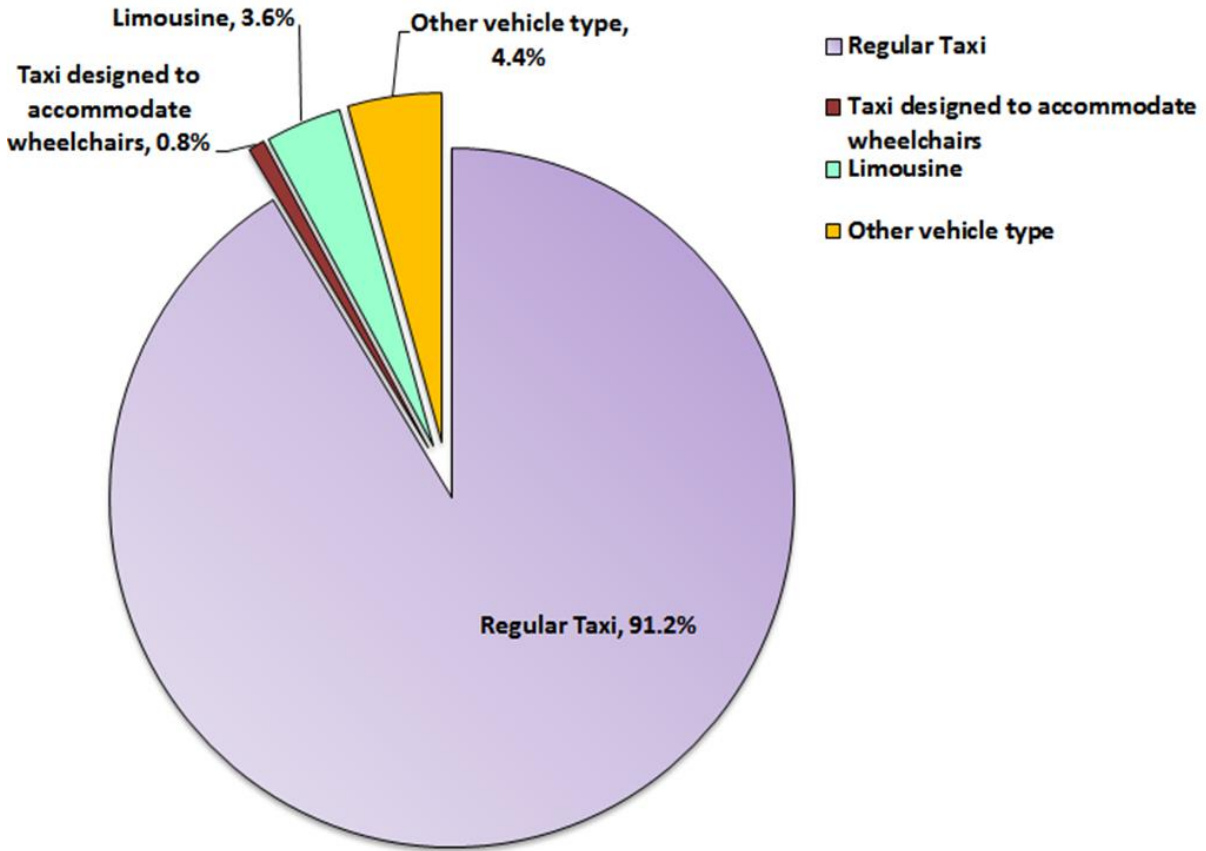


Figure 22. Respondent vehicle choice

Public Use of Taxis

The survey considered the nature of taxi use and the behavior and preferences expressed for particular service types. The survey asked existing app users, drawn from a respondent dataset supplied to the team, their preferred method of taxi engagement (see Figure 23).

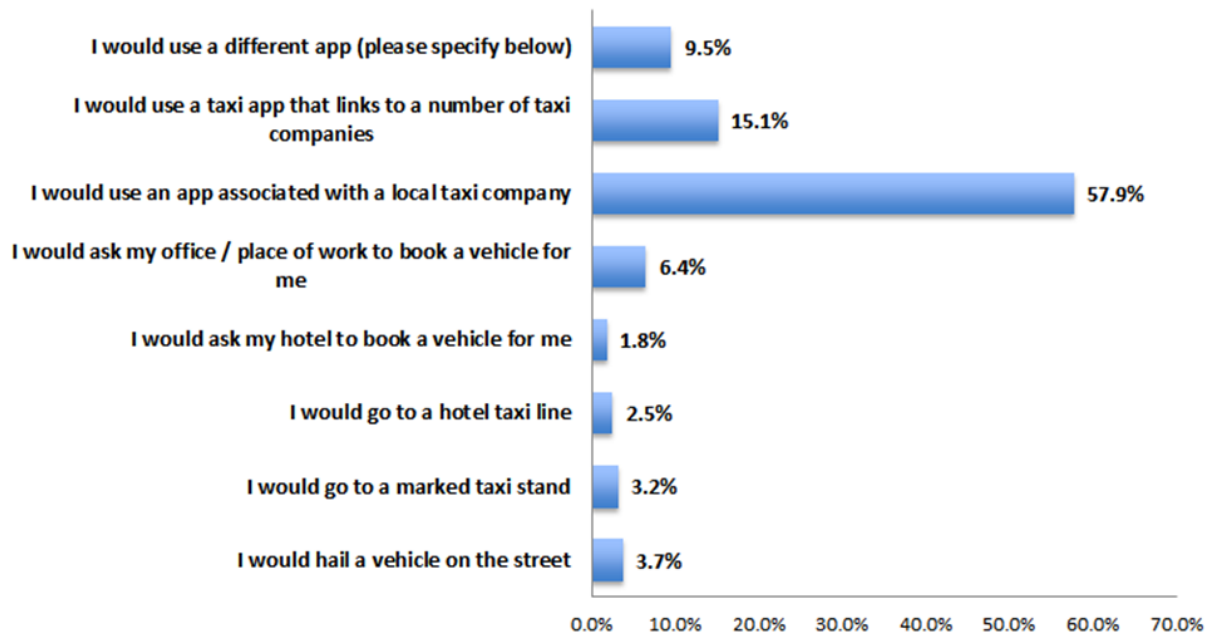


Figure 23. Preferred engagement method among existing taxi company app users

A majority indicated that their first choice would be the use of an existing taxi company app; for example, the app they were currently using. All apps were seen as preferable to other forms of engagement, with taxi stands (taxi lines) being the least favored form of engagement.

Respondents were also asked to comment on their experience of taxi use, expressed in terms of perceived wait times and times considered acceptable (Figure 24). It should be noted that both of these measures address perceptions of waiting times, which can differ from actual waiting times. The measure remains valid, however, since the choice to use a particular service is based on the perception of service quality.

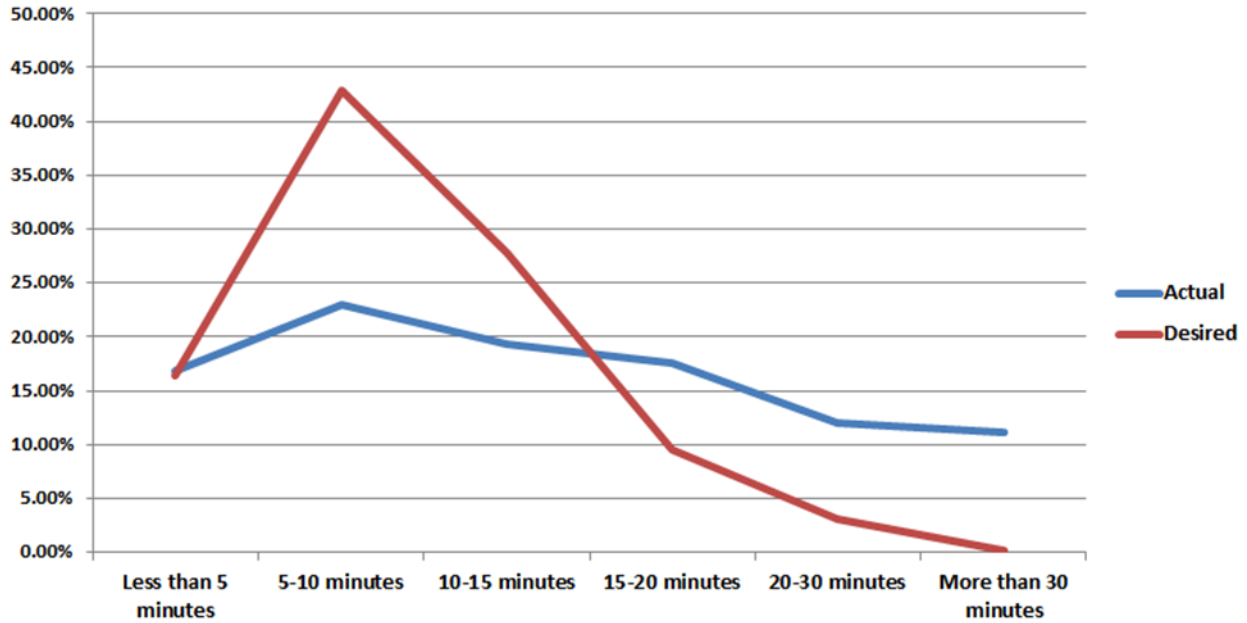


Figure 24. User perception of current waiting times and desired waiting times

By superimposing the desire line on the perceived delivery line it is possible to compare the level of service that is delivered to that which is felt acceptable. A significant number of respondents (44%) indicated that they would consider arrival times between 5 and 10 minutes acceptable, while 22% felt that this arrival time was delivered. Only 12% considered services with arrival times above 15 minutes acceptable, while 40% reported that this was the level of service they actually received.

Factors Influencing Taxi Use

Respondents were asked to indicate the importance of differing factors in choosing to use a taxi. The question was based on a five-point scale for 13 key elements, illustrated in Figure 25.

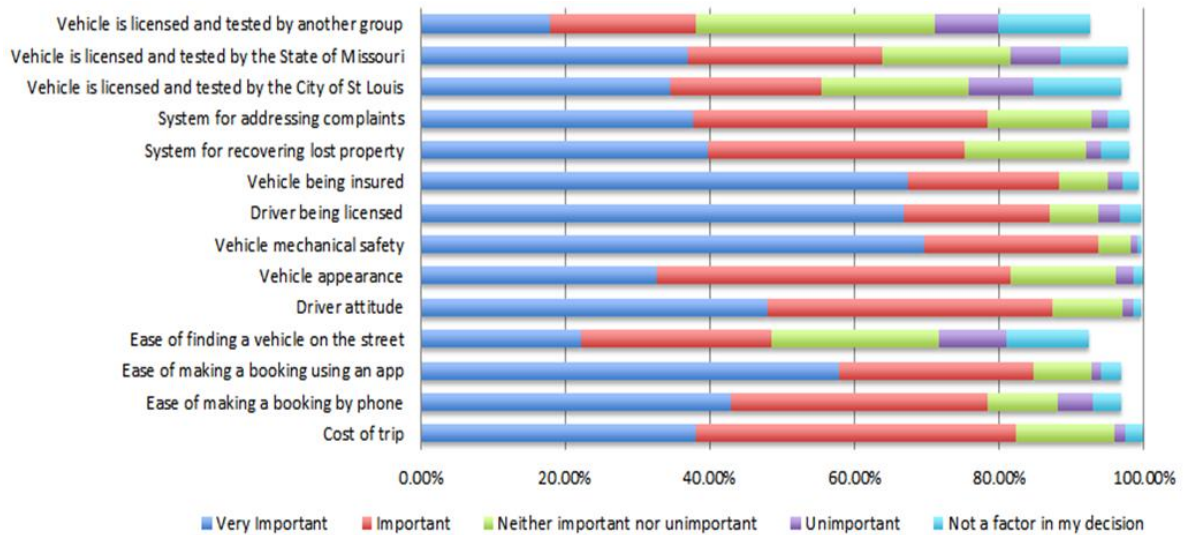


Figure 25. Respondent importance attributed to factors in using a taxi

Four factors score notably higher, ranked as “very important”. They are:

- Ease of booking by app
- Vehicle mechanics and safety
- Driver being licensed
- Vehicle being insured

The picture changes when “important” responses are factored in with the “very important” responses, introducing concerns about the cost of a trip, driver attitude, and systems for complaint resolution.

The same questions were asked with respect to limousine use (see Figure 26).

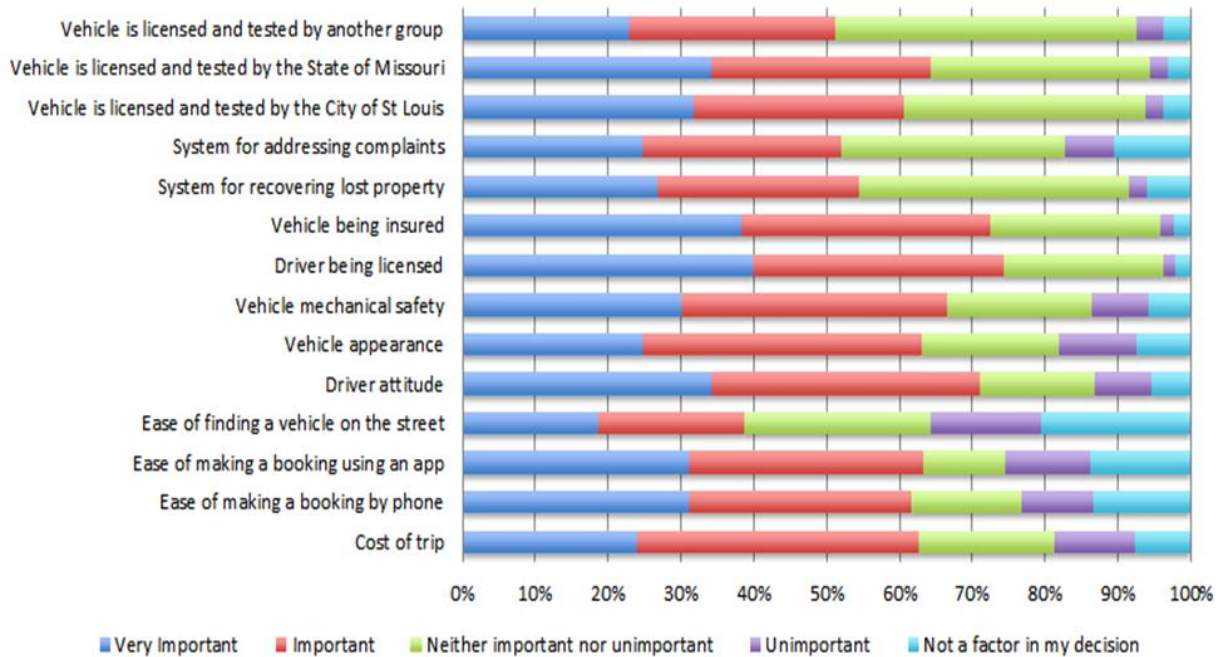


Figure 26. Respondent importance attributed to factors in using a limousine

Although similar patterns emerged in terms of the importance of licensing and insurance, the level of importance applied to the limousine market was lower than it was to the taxi market. It is also notable that driver attitude was rated proportionately higher in importance to limousine users than to taxi users.

App Design

Much of the current focus of attention in the taxi industry falls upon the design, functions, and use of smartphone apps. The survey asked respondents to indicate their experience with specific functions within the existing apps used (see Figure 27).

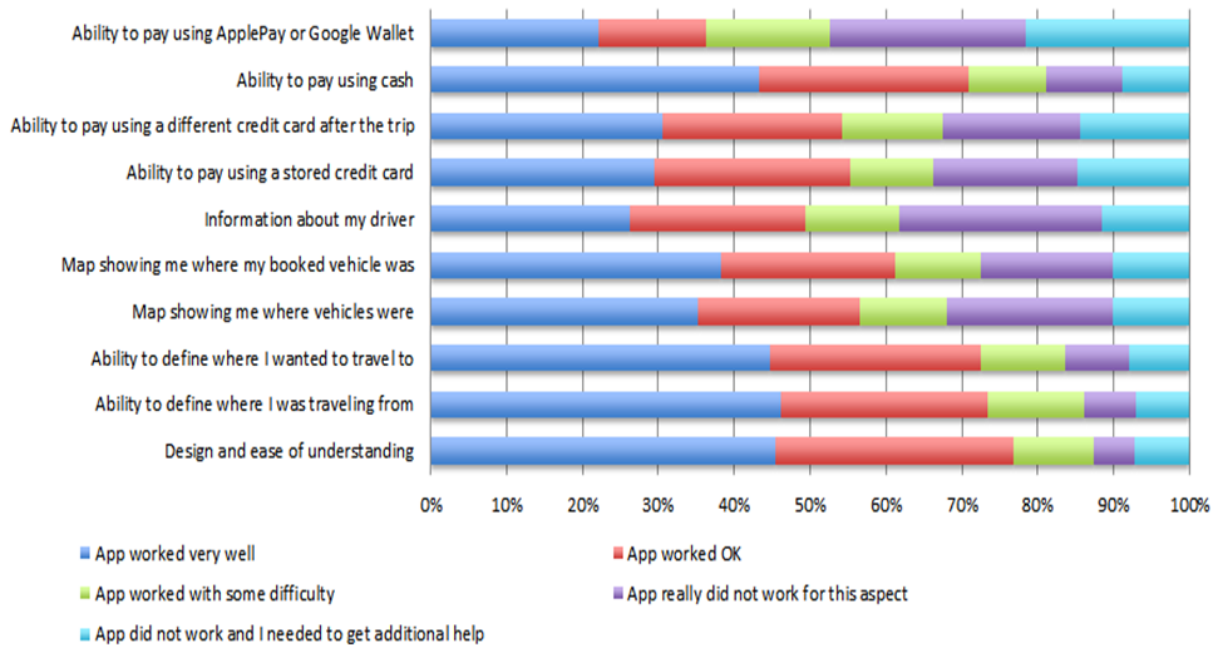


Figure 27. Respondent satisfaction with taxi apps

The highest levels of reported dissatisfaction related to differing forms of payment, though most respondents were happy with the ability to pay by cash, a function that does not exist in major TNC apps. Driver information and moving maps were also a cause for concern amongst respondents.

The survey also asked specifically about the respondents' feelings of safety in using taxis, limousines, and their apps (see Figure 28). Respondents were asked to score specific features in terms of the extent to which each made them feel safe or confident.

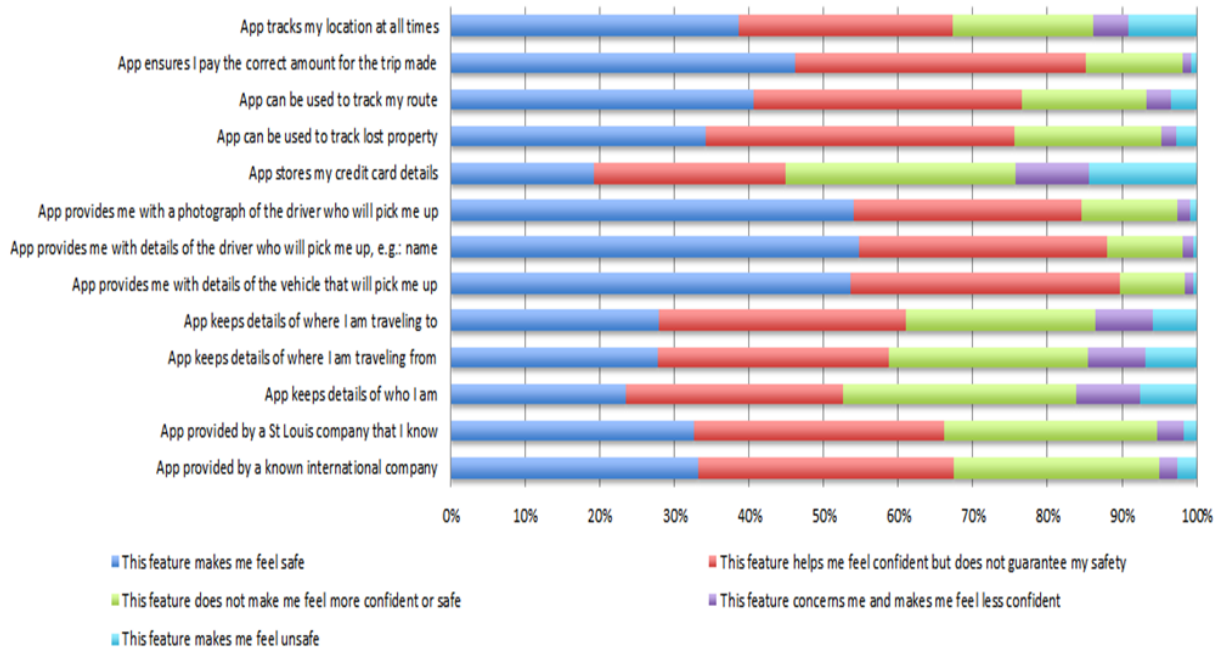


Figure 28. Respondent reassurance with taxi apps

The most reassurance was derived from the app features that provided details about the driver and vehicle. Another high-scoring factor related to the app’s ability to ensure that the correct amount would be charged for the trip. Lower levels of confidence were related to personal credit card information and personal details stored in the app or in relation to app use. The choice between a local company and an international company appeared evenly balanced, suggesting that while both were considered appropriate and desirable; neither was greatly preferred over the other.

Regulator Responsibility

The final question in the survey addressed the roles and responsibilities of the regulatory agency, the MTC in the case of St. Louis. Respondents were asked their opinions on a number of statements, covered in Figures 29 through 34. A five-point scale was used to indicate respondent agreement or disagreement with each statement.

Figures 29 through 31 show the responses regarding the need for vehicles to be clearly identified as commercial vehicles, the need for commercial liability insurance, and the need for drivers to have police background checks, respectively.

All vehicles offering taxi and limousine type trips need to have clear identification as commercial vehicles?

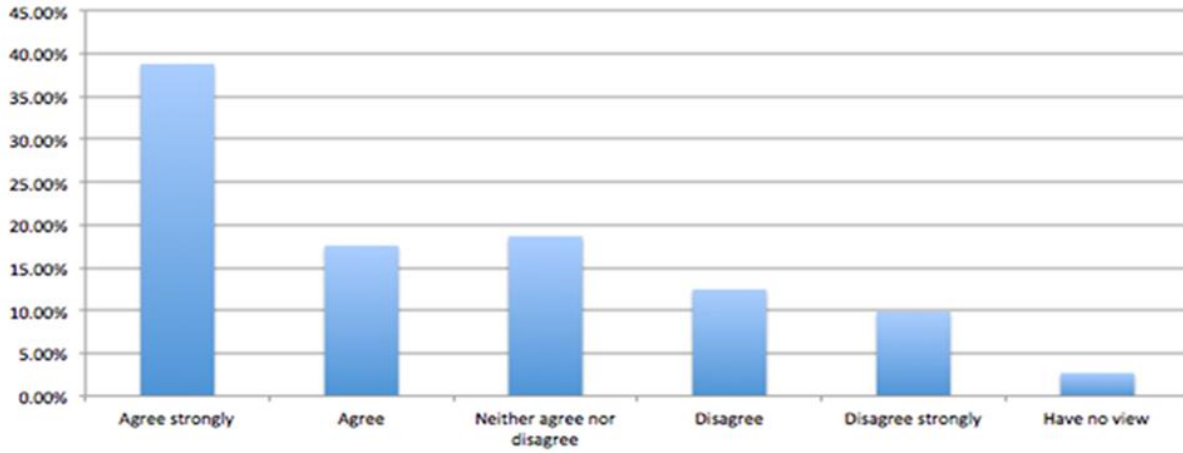


Figure 29. Respondents' views on identification of vehicles

All vehicles and drivers offering taxi and limousine type trips should be required to have commercial liability insurance at all times?

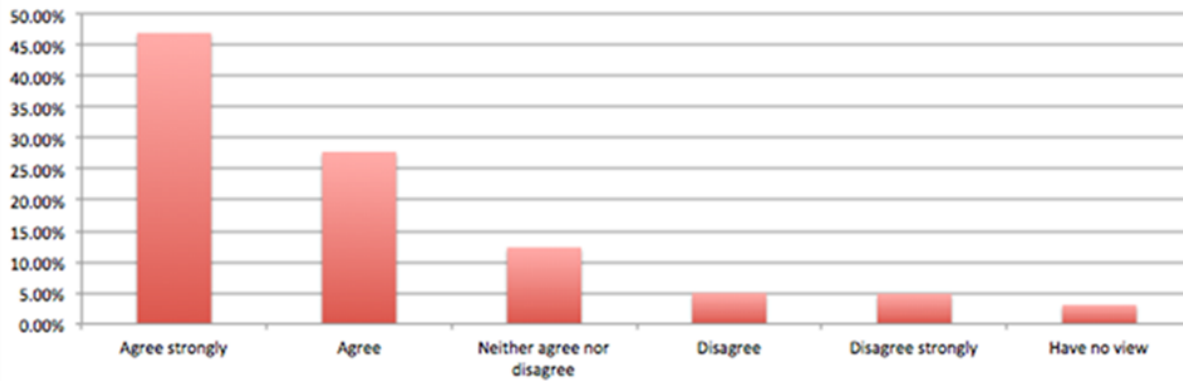


Figure 30. Respondents' views on need for insurance

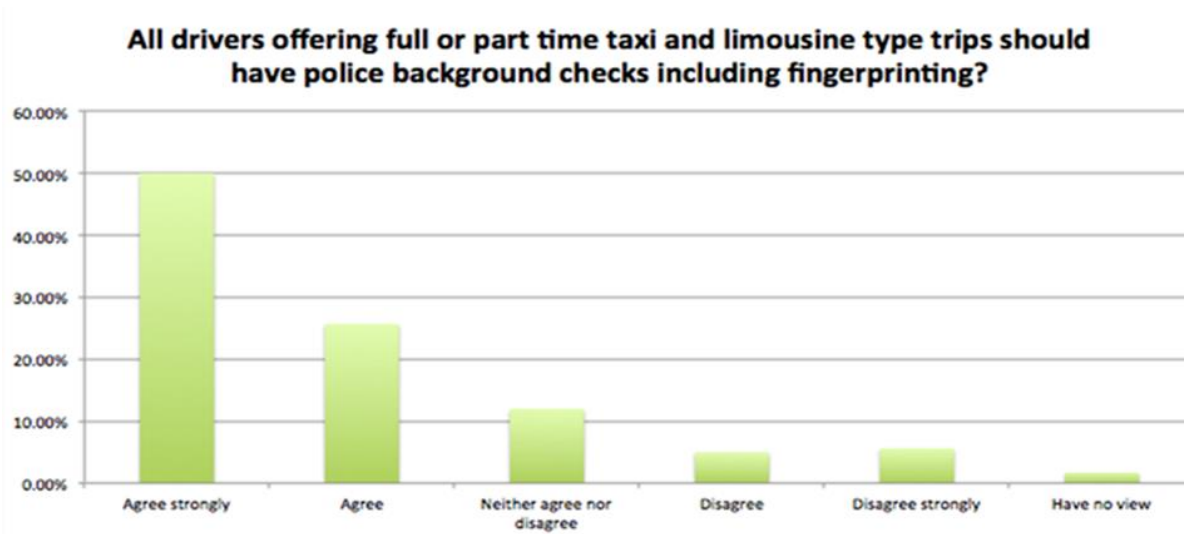


Figure 31. Respondents' views on need for police background checks including fingerprinting

There is strong agreement that companies providing taxi- and limousine-type trips should not be able to charge more than double the normal rate (Figure 32).

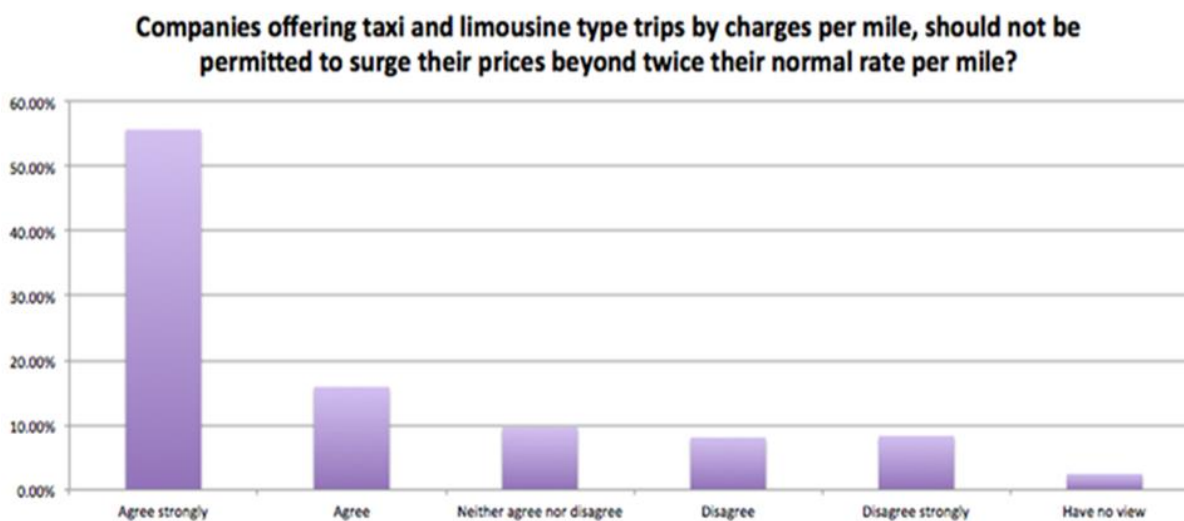


Figure 32. Respondents' views on maximum prices

There does not seem to be a problem with the use of personal cars for taxi- or limousine-type trips (Figure 33).

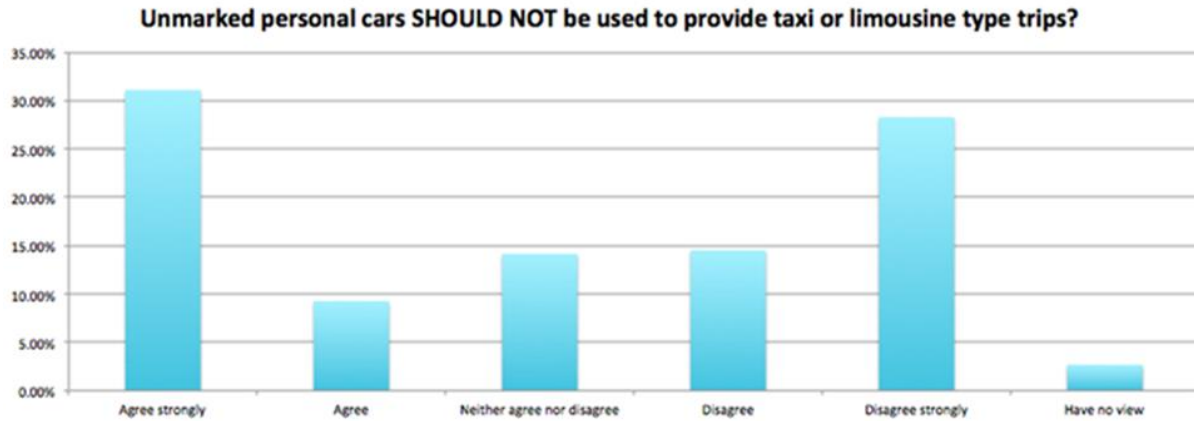


Figure 33. Respondents' views on the use of unmarked personal vehicles

There appeared to be agreement (50%) among respondents that wheelchair-accessible vehicles should be provided and made available by all companies wishing to provide public transportation services (Figure 34).

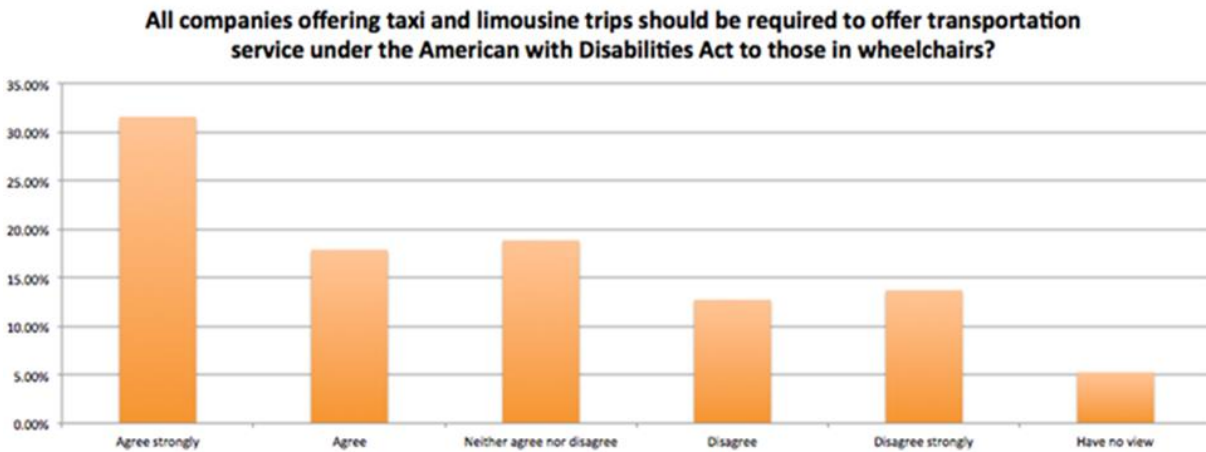


Figure 34. Respondents' views on the provision of wheelchair accessible services

TNC Considerations

The previous observations and surveys were collected under the conditions of existing taxi and limousine services in St. Louis city and county. It is apparent that this may not be the case with full consideration being given to entry deregulation in the taxi industry and its markets by TNCs. Below are observations that the MTC should keep in mind when addressing these issues.

The introduction of TNCs into a local taxi market should not be entered into lightly. It must be seen for what it is, and that is entry deregulation into the taxi industry. As previously noted, TNCs argue they are not taxi companies and, therefore, should not have to follow taxi regulations. But common sense tells us they most certainly are taxi operations and that they plan

to obtain a major low-cost position in this industry by avoiding the obligations and safety costs associated with providing taxi services to all members of the community.

That being said, there is little doubt that users thoroughly like the service and approve, or have little concern, if an unmarked personal car picks them up. Users also like the TNC app's ease of use and payment via smartphone. What the MTC and many other communities must wrestle with is how to integrate these services safely and without destroying their existing taxi systems. Clearly the "take it or leave it" business model of some TNCs would endanger personal safety of users and drivers and create a very unequal competitive business model for existing taxi operations. This model, in all probability, would force much of the taxi industry to change their operations to be more like TNCs or even become TNCs in order to compete and stay in business. This has been the pattern in California, where TNCs have operated for about three years. The following are concerns other communities have with TNCs, even though they have operated within their community for only a short time.

The MTC must also consider the personal safety of the traveling public when they use TNCs. These personal safety issues include concerns that each TNC driver be registered with the city, along with having proof of insurance, identifying the city as co-insured. This should not be limited to the drop-down secondary insurance being provided by these TNC brokers, but should also include the individual driver's primary personal auto insurance policy issued by an automobile insurance company registered and approved by the Missouri insurance regulator.

This is exactly what the Attorney General of New York achieved in a finding and settlement with one TNC, Lyft (Terrerri 2014). Also, as a condition of continued operation, the settlement required Lyft to agree to abide by all local and state regulations pertaining to taxicabs within the state of New York. Thus, assertions by TNC spokespersons that they cannot operate under these conditions would be false.

More importantly, TNC drivers, like all taxi and limo drivers, develop "personals," which bypass their app charges and airport charges if the airport is using only a monitoring system that is triggered by the use of a driver's cell phone app. The TNC driver can offer these "personal" users a substantial discount, and users can still pay by credit card if the driver is using another third-party credit card processor, like Square, to swipe their credit card. There is strong evidence that this is already happening in cities and airports that have recently admitted TNCs. New York City's taxi licensing bureau has recently arrested nearly 500 Uber drivers, primarily at airports, for soliciting rides outside the use of their app (Harshbarger 2015). When a driver is providing such "personal trips," unlike a fully insured taxi or limousine trip, there is no insurance coverage for the vehicle, the driver, or the fare-paying customer(s) in the vehicle.

If an accident happens on city streets, the city may be in a liability line and is the party most likely to be sued for permitting uninsured commercial vehicles to operate on city streets. Therefore, personal auto policies need to name the city as additionally insured as a way to protect insurance companies and any lien holders of personal vehicles used in TNC commercial operations.

Safety concerns are also very important to the traveling public. All commercial passenger drivers, even so-called part-time TNC drivers, need to have a police fingerprint background check before they are permitted to operate on city streets, just like that required of all taxi drivers. There should be no distinction between the two. TNCs' claims that their background checks are better than those of Missouri's Highway Patrol are not true. It has been well documented by a comprehensive report that these dating-service-type background checks are inferior to real police background checks (Daus and Russo 2015). Interested individuals can Google "Missouri Highway Patrol, Background Checks" and easily see the considerable differences between what a general public background check reveals versus that done by a police or regulatory agency.

The same would hold for physical inspection of the vehicle to be used in a TNC's commercial activity. These are not archaic or outdated regulations that stifle innovation and change, but common sense public safety issues that city officials should address.

The same argument can be made for drug screening and requiring a random drug testing program for all TNC drivers. Most other commercial driver licenses for freight or passenger services have such mandated programs in place. TNC spokespersons argue that this is not necessary—that their passenger reviews will report on anyone with a drug problem. Certainly erratic driver behavior can be reported *after* an incident/accident, but screening out drug users and the constant threat of a random drug test are preventive measures taken *before* an accident. Clearly, screening and random drug tests should be the norm for anyone wishing to transport other individuals. TNC drivers need not be given a dangerous pass in this regard. TNC's pronouncements about their "zero drug-tolerance policy" are meaningless when applied after an accident. A zero drug-tolerance policy simply means a company will comply with existing laws in every state, and requires removing drivers from commercial operations if they are found to be taking drugs.

Additionally, there is the unsettled legal question of misclassification of TNC drivers as independent contractors, when in fact they may be employees (*Los Angeles Times* 2015). The state of California has determined that at least one Uber driver was really an employee, given the level of personal control the company has over their drivers and the company's willingness to "fire" the drivers immediately if their customer scores them lower than a 4.6 on a five-point scale. In addition, the Supreme Court of Missouri has weighed in and found that at least for a short period of time one of St. Louis's Laclede Cab's drivers was misclassified. Given the known excessive control TNCs have over their driver partners, it is doubtful they could pass the independent contractor driver test now laid forth by the highest court in Missouri.

The MTC must consider the issue of surge pricing and how to treat such pricing as being fair to the users. More and more communities that have initially permitted surge pricing of TNCs have gone back to limit their ability to use this pricing flexibility. Chicago, for example, implemented surge protection, which requires TNC companies to make surge period or peak time public knowledge. It also requires the TNC driver to get customers' approval for the increased price and provide the information of the true fare quote in dollars and cents. The customers can choose to forego this quote by opting out of it. If the complaints are not reduced even after the increased disclosure, the city reserved a right to implement a cap on the TNCs' dynamic pricing.

Another bill was proposed by the Chicago city council to tackle the surge pricing issue. The bill would limit Uber's surge pricing to 100% of normal rate. During peak hours, Uber's surge price can go as high as 900%, while yellow cabs and green cabs increase their price by only 20% to 30%. Uber's Chicago rival, Yellow Cab, is in favor of limiting the surge price to 20%, while Uber is lobbying tirelessly to make sure no such bill passes so they can continue their dynamic pricing (Hawkins 2015).

Such rethinking of TNCs' surge pricing is not limited to cities. A New York state article focused on surge prices and a bill that was introduced to limit them. David G. Greenfield proposed a legislation to put a cap on TNCs' rate increase in New York City. He says it is important to control this practice, otherwise rideshare consumers will be taken advantage of by the TNCs. This legislation is designed to protect the livery industry and yellow cabs as well. Greenfield says immigrant cabbies are also being punished by the TNCs (Schlossberg 2015).

Other troubling aspects about TNCs in the taxi market include their refusal to provide accessible wheelchair services to the transportation-disabled community and the TNC refusal to accept cash and require payment by electronic credit card only. Credit cards are mandated so the TNC gets its money first and then splits the fare with the driver. But the obvious lack of concern for those protected by the Americans with Disability Act demonstrates an unwillingness to be part of the community and serve all its citizens. Their avoidance of individuals that either do not have or prefer not to use a credit card is also an attempt to avoid serving many taxi-dependent users who want a short trip and to pay in cash. Often, these types of trips are found in minority neighborhoods where access to an automobile is not always available.

A final hurdle MTC will have to overcome will be the TNCs' unwillingness to have their drivers licensed by the MTC once background checks are performed. Such a requirement is an absolute must if the MTC is going to exercise any control over the behavior and actions of these drivers. The MTC should mandate that all TNC drivers become part of their app feedback program, which could electronically collect customer evaluations regarding the taxi and taxi-type services they received. It should be within the purview of the MTC to both grant a TNC driver license if such services are to be permitted in St. Louis city and county, and to revoke a TNC driver license if MTC regulations and rules established for them are not followed.

RECOMMENDATIONS

Recommendations from this update on taxi services in the city and county of St. Louis are made based on two assumptions. The first set of recommendations assumes that the MTC is unable to lower its safety and reporting standards to accommodate TNCs and the framework, rules, and regulations for taxi services remain largely unchanged. The second set of recommendations assumes that the decision to deregulate entry into the taxi markets by admitting unlimited numbers of TNC vehicles and drivers has been made.

Assuming the Status Quo or Existing Operations

Market Supply Expansion

Should the framework for taxi services in the city and county of St. Louis not change dramatically, it is recommended that the MTC continue on its path of improving the vehicle and driver standards of taxi companies within its jurisdiction through the support of full-service taxi companies. Existing taxi companies should be encouraged to grow with their markets and geographic areas served. New taxi companies should be permitted, as long as they establish operations as a full-service taxi company with a minimum of 50 vehicles in service. These new companies should be able to provide financial and managerial resources necessary to operate this medium-sized taxi operation. Existing companies should be able to apply for additional permits if they can support the need for them.

It would not be surprising if no new taxi companies with the necessary financial and managerial resources decide to enter the already competitive taxi market. Some of the current providers are unable to use their available permits during the slower summer months, and current taxi users appear to be loyal to their existing taxi companies.

Increase User Access and Ease of Use

At the time of this report, only three of the St. Louis taxi companies were able to offer customers a convenient app from which order a taxi. And often, a user could only determine from the app if a cab from that specific company is close by. The ability is needed to use a single city/county taxi app for all taxis, so users are able to choose which one they would like to summon for service. Users should still be able to connect with their favorite taxi company, but have the ability to electronically view all available taxis in the surrounding area.

In the past, this meant having a common dispatch system for all taxis, or at least sharing data terminals from which to receive requests for service and make credit card payments. This was considered expensive if all taxis had to be so equipped. Now, however, with the use of taxi apps, a taxi driver need only have a cell phone capable of running the app. Therefore, it is recommended that the MTC encourage the development of a single, common taxi app for supplemental use by all taxi companies. Examples of common taxi apps that supplement individual taxi companies' apps would be Curb (formally Taxi Magic), Flywheel, and Hailcab.

There are others, but the general principle is the same. The area taxi app works through taxi companies' dispatch systems if one is available or goes directly to the individual cab driver if a cell phone is the only way for them to receive requests for service.

Either of these cases could eliminate the common problem of calling multiple taxi companies and taking the first one that arrives. It is further recommended that such a taxi app have a \$5.00 "no show" fee for individuals who order a ride and then change their mind. A larger penalty fee might also be levied against a driver who accepts a request for service and then declines to fulfill that request.

Increase Vehicle Standards and Driver Oversight by MTC

The MTC should continue to increase the vehicle standards by decreasing the maximum age limit for taxis from 10 years to 8 years, with a further limitation that does not allow any vehicle older than 4 model years to be placed into service. This will improve both the appearance and environmental impact of the taxi fleets within St. Louis.

Also, as seen through this study's survey of current taxi users, most taxi drivers in St. Louis offer good service. However, there are others who provide not-so-good or poor customer service. Unfortunately, few people complain to either the MTC or the taxi company management. Even more unfortunate is the fact that the taxi company management cannot discipline a driver, since the driver is an independent contractor. Taxi company officials can refuse to renew a driver's lease, but this often proves difficult.

The growth and spread of taxi apps are providing much more information on the quality and attitude of services rendered by a taxi driver, and the MTC should be more forceful in gathering this customer data for purposes of renewing or not renewing a taxi driver's license. Therefore, it is recommended that all taxi and taxi-type companies using apps have a customer evaluation survey on their app to rate the driver on a scale provided by the MTC. This rating would be electronically communicated to a data file within the MTC. Poor ratings would be red-flagged by this database so officials could review the individual ratings and immediately remove a driver's license should further investigation reveal that such action is warranted. With the proper back-office software, this should not be a burdensome task for the MTC personnel and would greatly enhance their ability to improve taxi customer service.

Assuming the Assimilation of TNCs

If the decision is made to deregulate entry into the taxi industry and its markets by including TNCs, recommendations for how this may be accomplished are provided below.

Recognize Public's Desire for TNCs, But Provide Public Protection

TNCs have effectively mounted a public relations campaign to convince decision makers that their services are safe, efficient, and desired by the vast majority of the traveling public.

Unfortunately, many of their claims are myths perpetuated by constant repetition in the print and electronic news media. For example, as noted elsewhere in this report, their background checks are not nearly as comprehensive as police fingerprint background checks. Yet they use forceful print and media campaigns to claim their checks are equally thorough. It is common sense that TNCs should be required to use the same background checks and drug testing programs as those currently required by MTC for all taxi drivers. Public safety would demand no less.

Other Minimum Requirements for TNCs

Insurance requirements can be easily dealt with by requiring that all vehicles offering commercial passenger service carry commercial liability insurance at all times. Alternatively, MTC could require that each individual TNC drivers' personal auto insurance policy (1) name the MTC as additionally insured and (2) be made aware that the vehicle is being used for commercial purposes.

TNC drivers also should not be able to evade the initial drug testing and random drug testing required of taxi drivers. Drug-dependent individuals need to be prevented from operating as TNC drivers rather than being fired after an accident occurs. Therefore, it is recommended that any TNC operating permit process require all drivers to be able to pass a drug test, be registered as a driver with the MTC, pass a police fingerprint background test, and pay all fees and costs of their application to drive before they are granted a license.

Obviously driver background checks, drug testing, and insurance are "safety issues" designed in the public's interest, but so are other items, such as the need for at least annual vehicle safety inspection of these personal vehicles used in commercial transportation. Also, certain offensive customer services should be prohibited, such as surge pricing and providing personal trips off-the-record.

Surge pricing often takes advantage of individuals who need taxi services. In some cases, the customer is unaware that the surge price may be 9 or 10 times the normal fare. Thus, it is recommended that the MTC limit TNCs' surge pricing to no more than double the taxicab meter rate for the same distance, or double the TNCs' normal rate for the same distance. In addition, this same ability to use flexible pricing should be extended to taxi companies that may wish to charge an additional amount for peak-time activities.

Personal trips by a TNC driver are a particular threat to both the driver and the passenger because, under a normal scenario, there is no insurance for this trip. The drivers' home insurance policy would not cover it, nor would the TNC, since their app was not turned on/utilized. The exception to this prohibition would be if the TNC driver had commercial liability insurance that covered the vehicle and passengers at all times, irrespective of whether it was a TNC trip or not.

Enforcement of the above recommendation would call for TNC vehicles to exhibit some indication that they were part of a commercial operation. TNC vehicles need not display a matching color scheme similar to taxicabs, but a clearly marked, magnetic, 1 x 2 ft sign should

be placed on the vehicle's passenger side door whenever their app is turned on or a passenger is being transported. Such markings are not only helpful to MTC enforcement personnel, but also to users who can readily identify their intended vehicle.

As with the recommendation for electronic transmission of all customer evaluations gathered by taxi apps, TNC apps should be required to turn over this driver evaluation data to the MTC in a form developed by the MTC. The MTC is granting a legal license for that driver to drive a TNC vehicle, so the MTC should be given all information as to how that individual is treating the customers.

Limited Entry Trial

A final recommendation for the MTC would be to go slowly in the addition of TNCs into the St. Louis taxi market. Uber alone is estimating they have some 7,000 to 10,000 drivers ready to provide service. Such an influx of additional suppliers to the taxi market will severely impact the incomes of taxi drivers, especially those drivers who depend on hotel and event traffic to generate the bulk of their business. Some drivers would be forced from the industry and have to seek employment elsewhere. The initial wave of TNC drivers will obviously create significant unemployment among these drivers.

No one gets up on a Sunday morning and thinks, "It's a great day! I think I will take a taxi ride!" Taxi demand, in the short run, is fixed. It is a "derived" demand based on the need to be somewhere else; to see a doctor, go shopping, go to dinner, etc. Ten thousand new TNC drivers on the streets of St. Louis will not change this demand in the short run.

Therefore, it is recommended that the MTC consider a limited trial of TNCs in their first year of operation. The MTC could set a limit of no more than 500 TNC drivers, which would increase the current taxi workforce by 50%, but should satisfy any complaint from TNCs that they do not have enough vehicles on the street to serve the demand. These TNC drivers and their activities could then be monitored, and the MTC would have better information as to how the workforce will be impacted and what further steps they may take with TNCs.

Another year would also allow the many lawsuits against TNCs to play out in the courts. As mentioned earlier, courts may determine that TNC drivers are employees rather than independent contractors. Such a decision would dramatically affect the business cost model of TNCs and the services they could offer.

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APPENDIX A: TAXI DEREGULATION RESULTS IN OTHER CITIES

The failure of the US taxicab industry open entries deregulation is well documented. Sandra Rosenbloom of the University of Texas and Roger Teal of California State University have separately concluded that taxi deregulation has failed to demonstrate any substantial benefits to drivers, taxi firms, or users (Rosenbloom 1985, Teal and Berglund 1987). Paul Dempsey, in summarizing the empirical data from these researchers' studies and other commissioned studies, listed the results of taxi deregulation in 21 major US cities prior to 1983 (Dempsey 1996). These were as follows:

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
7. Little or no improvement in administrative costs

Other authors having once advocated taxi deregulation by removing the maximum number of cabs authorized to provide service and recognizing 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. (Gentzoglani 1992)

An entry proponent of taxicab deregulation, Teal (1992) writes:

By the late 1980s, 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 and Berglund 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.** (Teal 1992; written in 1992, but still relevant today.)

The deregulation and then re-regulation of taxicabs in the city of Seattle is indicative of the taxicab deregulation experienced by many major US cities. James J. Buck, manager of 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 taxi meter, 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 taxi meter.

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. (Buck 1992)

By 1984, taxicab deregulation in King County was dead, completely reversed with a fixed limit applied 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 (International Taxicab Foundation 1993). Six US cities that had previously deregulated their taxicab industry through open entry were examined in depth. The executive summary of the Price Waterhouse report concluded:

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 improvements 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 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. (International Taxicab Foundation 1993)

The airport taxicab system might have an impact on low-income and residential users, the primary market for non-airport taxicabs. Dempsey (1996) quotes Gorman Gilbert, one of the country's foremost writers on taxicabs and former Commissioner of the New York City Limousine and Taxi Authority, who 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 facilities. 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.' (Dempsey 1996)

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