

Comment of Mark J. Riley Clean Energy 2/3/12

Clean Energy

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**Via Email to Charles Milstein, Esq.** ([cmilstein@philapark.org](mailto:cmilstein@philapark.org))

Mr. Vince Fenerty,

Executive Director

Philadelphia Parking Authority

2415 S. Swanson Street

Philadelphia, PA 19146

**Re: Comments to Wheelchair Taxicab Reg (300) 120123**

Dear Mr. Fenerty,

Clean Energy is North America's premier provider of natural gas fuel for transportation. Our company operates over 280 strategically located natural gas fueling stations throughout North America and is a global leader in the expansion of natural gas vehicle markets.

Right now, Clean Energy is constructing a compressed natural gas (CNG) fueling station just outside of Philadelphia International Airport which will be perfect for taxicab vehicles to use. Today, Clean Energy provides natural gas fuel to more than 25,000 vehicles daily ranging from 18-wheelers, refuse trucks, and transit buses to taxis, shuttles, and municipal and utility fleet vehicles. Clean Energy recently announced its launch of America's Natural Gas Highway, a network of natural gas fueling stations along major trucking corridors across the country. America's Natural Gas Highway will facilitate coast-to-coast, border to border, commerce utilizing natural gas-powered trucks. We will, of course, be covering the Northeast Corridor and the Philadelphia region.

We support the PPA's goal of adding wheelchair accessible vehicles into the Philadelphia "for hire" taxi and limousine industries. We believe that a key to the success of this important task is the use of cleaner, cheaper American natural gas.

Notably, the PPA has already approved the CNG MV-1, which is the first and only factory-direct vehicle that meets or exceeds the Americans with Disabilities Act (ADA) vehicle guidelines. The CNG fuel for the MV-1 is also factory-direct, with no aftermarket conversion, and it provides a generous 290-mile CNG fuel range. In addition, the PPA has also approved the CNG Ford Transit Connect, which Ford is rolling out across the country as a taxicab vehicle. Although the CNG Ford Transit Connect is not wheelchair accessible, its seating configuration can assist people with mobility issues who are not using a wheelchair or scooter.

The benefits of operating Philadelphia's taxicabs on natural gas include:-2 -

**1. Natural gas costs less than gasoline.** Compared to today's gasoline prices, Taxi operators will save approximately a \$1 per gallon of fuel purchased and could save substantially more as gasoline prices increase in the future. Today, natural gas equals \$5,000 per year in each driver's pocket.

**2. Natural gas is a domestic resource, and utilizing natural gas in transportation benefits both our national security and economy.** At a recent press conference held to commemorate the completion of our first node of the America's Natural Gas Highway in Las Vegas last Thursday, President Obama declared the United States "the Saudi Arabia of natural gas." The United States, the world's largest producer of natural gas, has proved reserves of natural gas equal to 6 times more energy than Saudi Arabia has oil. Natural gas equals American jobs, improved business competitiveness, and enhanced national security.

**3. Natural gas is the cleanest fuel available today.** It substantially reduces both smog-forming nitrogen oxides and reduces life-cycle greenhouse gas emissions by as much as 30 percent. Smog is a leading cause of asthma and other respiratory illnesses, including chronic obstructive pulmonary disorder. The use of natural gas in transportation equals a clean air day versus an air alert day.

**4. Natural gas fuel for vehicles supports the economy in Pennsylvania and creates local jobs.** The natural gas industry is providing a tremendous economic benefit in Pennsylvania and a report was issued which stated that more than 150,000 people in Pennsylvania would be employed in 2011 in the natural gas industry.

Philadelphia has the opportunity to serve as a model for other major US cities by setting not only the standard for clean, natural gas taxi application, but for accessible taxicab service for Philadelphia's diverse residents and visitors. Imagine the completion of the proposed program in 2016 with 1,600 new accessible, natural gas-powered taxis serving Philadelphia - displacing nearly 8 million gallons of gasoline and saving taxi drivers \$8 million or more in fuel charges every year. At that time, taxi regulators in other Cities will be looking at their next round of gasoline fuel surcharge increases on the riding public, while here in Philadelphia the taxi drivers and the taxi riding public will be breathing easy, and celebrating your leadership and foresight.

To assist the transition to CNG taxicabs, the PPA can consider economic incentives which will benefit both taxi vehicle owners and taxi drivers. For example, the PPA can implement a tiered lease rate structure similar to Chicago's new taxi ordinance, vehicle age limits for different kinds of taxi vehicles, and the creation of a wheelchair accessible/CNG taxi fund which can help reduce the purchase price of a taxi vehicle. In addition, the Commerce Department's Division of Aviation can implement a CNG taxi "front of the line" rule at Philadelphia International Airport which will allow taxi drivers to save time waiting for a fare, thereby economically incentivizing them to use CNG taxicabs.

Clean Energy recognizes that enacting these policy changes requires support from government and industry to be a success. For that reason, Clean Energy is committed to -3 -

work in coordination with the PPA, the taxi industry, the local government, the City Council, and the IRRC process to build out an adequate natural gas fueling network throughout the Philadelphia region to serve the fleet of taxicabs, as well as, government, business, and individuals operating natural gas vehicles. We are already working with real estate partners to develop fueling infrastructure at existing conventional fuel stations, including locations in Atlantic City, NJ. Clean Energy is already heavily invested in developing a region-wide fueling network for natural gas vehicles.

In conclusion, Clean Energy applauds the PPA's important goals. It is a demonstration of leadership and a commitment to providing your entire community with the finest, accessible, clean-fueled taxi services in the country. We offer our commitment and assistance in implementing these important changes to the professional taxicab industry in Philadelphia.

Sincerely,

Mark J. Riley

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**Comment of:**

Rocco J. Iacullo, Esquire, Disability Rights Network of Pennsylvania

The Disability Rights Network of Pennsylvania (DRN) is the statewide, non-profit corporation designated as the federally-mandated organization to advance and protect the civil rights of adults and children with disabilities. DRN's mission is to advance, protect, and advocate for the human, civil, and legal rights of Pennsylvanians with disabilities. DRN strongly supports the Philadelphia Parking Authority's proposed regulations which will mandate that 20 %, or 300, of the 1600 medallion taxicabs must be wheelchair accessible within 90 days after their adoption and that 100% of taxicabs must be wheelchair accessible by January 1, 2016. People with disabilities have been denied access to taxi service in Philadelphia for far too long. The introduction of wheelchair accessible taxi service will further erode one of the biggest barriers that limits people with disabilities from full participation in the community – the lack of accessible transportation. Wheelchair accessible taxis will expand the transportation options for people with disabilities and provide them with increased freedom and opportunities for employment, recreation, and travel.

Currently, residents and visitors with disabilities have very limited transportation options. The Americans with Disabilities Act (ADA) paratransit eligibility requirements are very strict and many individuals no longer qualify for paratransit. Visitors are also typically not eligible for paratransit. Even if someone is eligible for paratransit, there are many restrictions and limitations on the actual service in terms of scheduling and availability that are not present in taxi service. And there are many situations where the use of a fixed route bus is not practical for getting to an appointment or getting to a job on time.

While I am writing on behalf of DRN, I also am writing as an attorney who uses a motorized wheelchair and practices law in Philadelphia. I have been unable to use taxi service to get to court or to travel to client meetings and often have to travel in inclement weather. If the PPA enacts this proposal, I, as well as all other residents, visitors, and workers who use wheelchairs, will finally be able to hail a cab just like everyone else.

The ADA was passed over 20 years ago and it is simply unacceptable for people who use wheelchairs to be excluded from taxi service any longer. Therefore, I strongly urge the PPA to take all actions necessary to ensure that this proposal is implemented.

Thank you for consideration of these comments.

Rocco J. Iacullo, Esquire  
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Comment of Damon Martin 2/3/12

Hi Sir, I am a disabled person living in Philadelphia, my name is Damon Martin my address is 2111 cross Street Philadelphia, Pa 19146, and yes I would like accessible taxicabs for Philadelphia.

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Comment of Mary Hitner-Parker 2/3/12

Please add me to the list to support accessible cabs in Philadelphia, my name id Mary Hitner-Parker

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Comment of Alicia Bradford 2/3/12

My name is Alicia Bradford, Please put me down to support Philadelphia with accessible cabs, we need them. Thank you so much.

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Comment of Virginia Bennett 2/3/12

Hello, My name is Virginia Bennett, I'm in total in support of have accessible cabs in Philadelphia, we really do need them. Thank you for caring.

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Comment of Belden Jones 2/3/12

I would like to support accessible cab in Philadelphia , I m Belden Jones. Thank you.

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Comment of Richard Duckson

Yes, please help us with accessible cabs, this is something that we really do need. Thanks,

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Comment of David Temple, Esq., for PA Taxi Association 2/3/12



## GALLAGHER MALLOY & GEORGES

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January 20, 2012

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Dennis Weldon, General Counsel  
Philadelphia Parking Authority  
3101 Market Street  
2<sup>nd</sup> Floor  
Philadelphia, PA 19104

RE: Pennsylvania Taxi Association  
Handicap Medallion Regulations

Dear Dennis:

The Pennsylvania Taxi Association is in receipt of the newly proposed regulation seeking to change 300 of the existing medallions to handicap accessible medallions. This proposed regulation is ludicrous. While we understand and support the need to put handicap medallions on the street, this is not the proper way to do it. The proposed regulation overstates the number of handicap medallions necessary, fails to address how they would be operated and most importantly will have a drastic negative impact on the "winner" of this lottery and the industry as a whole. This plan jeopardizes the financial stability of drivers and owners. How can a company that paid \$380,000.00 for a medallion now pay another \$40,000.00 for a vehicle? The economics of new vehicles were reviewed extensively when the new regulations were implemented just a couple of months ago. You cannot look at the value of the medallion you need to look at the income derived from the operation of the medallion. Newer vehicles were not financially viable with a less expensive vehicle and there is no reason it is viable now. The only way to increase revenues is to charge the riding public more money. It is those that have already been decimated by this economy that rely on the cabs for service and cannot bear any further increases.

Furthermore all of these medallions are already financed. This newly proposed regulation and the new expenses that accompany it were not factored into any decision to



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Furthermore all of these medallions are already financed. This newly proposed regulation and the new expenses that accompany it were not factored into any decision to

lend money. Any such changes will decrease the value of the medallion chosen if not the medallion market as a whole. Such a drastic change to the collateral could generate defaults on the loans. If you try to institute such a regulation financing companies will pull out of the market based on such uncertainty. This would cause our whole system to collapse. Do not waste everyone's time and money pursuing a regulation that cannot work.

I thought we were past regulations being forced upon the industry without their consideration or input before they are advertised to the general public or developed for the regulatory process. Additional time is necessary to study the situation and develop a plan that meets the needs of the handicapped community while preserving the financial viability of the medallion owners. Please take a closer look at what you are seeking here. We would like to meet with you to discuss this situation and develop a plan of action for a better solution.

Thank you for your prompt attention to this matter. I look forward to speaking with you shortly.

Very truly yours,



DAVID P. TEMPLE



Comment of Dr. Ray Mundy, submitted by Ronald Blount, President of the Taxi Workers Alliance of Pennsylvania 2/6/12

# Assessing the Full Cost of Implementing An Accessible Taxicab Program

Prepared For  
Taxicab, Limousine & Paratransit Foundation  
Prepared Under the Direction of  
Ray Mundy, Ph.D.

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## Executive Summary

The Americans with Disabilities Act (ADA) federal legislation was enacted to eliminate discrimination based on disability. Although the ADA specifically exempts automobile-type

vehicles, including most taxicabs, from the requirement to be wheelchair accessible, it has greatly affected the taxicab industry in the United States. First, many of the current ADA-mandated trips which were formerly provided by taxicabs, are currently provided by public transit agencies or non-profit firms. These firms provide taxpayer-supported ADA complementary paratransit service. As a result, the market for privately-provided services has all but been eliminated. It is hard to compete with free or largely free services. Secondly, some state and local regulatory authorities are going beyond the federal legislation and mandating that ADA-approved accessible vehicles be a part (typically 2% to 5%) of their permitted taxi fleets. Some taxicab companies are being forced to bear the significantly increased costs in order to provide these accessible transportation services – often without appropriate public financial support. Included among these increased costs are the cost of an ADA-compliant vehicle, operating costs such as fuel due to decreased gas mileage/efficiency, liability insurance, training, vehicle productivity, passenger assistance on ingress and egress, and perhaps vehicle shipping. Finally, for those communities that have mandated wheelchair accessible taxicab services, there is the problem of having an independent contractor driver willingly accept these trips, a topic to be more fully addressed within the scope of this study. Fortunately, there are many different positive approaches being taken by communities and taxi companies to achieve greater mobility for the transportation disadvantaged. Some communities provide financial incentives for taxicab companies to operate ADA-qualified vehicles, while other alternatives offered might be reduced license and permitting fees. Others may purchase ADA-approved vehicles and lease them to taxi companies at a reduced rate. However, there is a reasonable concern of whether the incentives gained are enough to cover their cost in most instances. Finally, there are individual full service taxi companies that are finding some success by integrating these ADA-compliant accessible services into their general operating systems with

some relatively minor public assistance. Each of these situations, their costs and long term benefits to taxi companies, users and communities alike are discussed within. This report addresses the issue of ADA-mandated taxicab service through the documentation of costs and operational difficulties resulting from the local expansions of ADA type legislation. To determine accurate costs, the research team interviewed various ADA approved vehicle distributors in North America and verified their cost findings through interviews with North American taxicab companies. Practical difficulties are analyzed in this report through research and interviews with taxicab companies already operating ADA compliant vehicles. The actual demand or public need for accessible taxicabs at airports, based on data from the top fifty (50) North American airports, is also detailed. Finally, an interactive cost analysis spreadsheet is included so that local taxicab companies and authorities can easily calculate the estimated costs for implementing ADA-approved vehicles within their community. Overall, the report concludes that a small portion of integrated accessible taxicabs for curb-to-curb service are in the best long-term interest of both the public and the taxicab companies. Additional costs of these services are real, however, and must be supported by the communities these taxicabs serve. A final comment would be that one must consider the taxicab environment when initiating desired ADA taxicab services. If the community has a fractured taxicab system with many individual companies and no real full service taxi companies, implementation of an integrated ADA wheelchair accessible system will be extremely difficult and costly. Some progress might be possible with a centralized dispatch system which requires all taxicabs to accept calls. However, the economic realities are that the human behavior of the typical independent taxicab driver will work against the overall needs of the community to make these services available at reasonable and normal taxicab rates. In these situations, community leaders may have little choice but to directly contract ADA providers that schedule and deliver these publicly provided services.

## Introduction

On July 26, 1990, the American with Disabilities Act (ADA) was signed into law by President George Bush in order to eliminate discrimination based on physical and mental disabilities. The term disability is defined in the law as "a physical or mental impairment that substantially limits a major life activity." The ADA consists of five main sections: employment, public services and public transportation, public accommodation and commercial facilities, telecommunications and miscellaneous provisions. Our concern is with those aspects of the law that apply to privately provided public transportation commonly known as "taxicabs."<sup>1</sup>

Since ADA covers nondiscrimination in the transportation industry, this act has particularly impacted public transit agencies which, as a result of the 1990 legislation, must provide a full range of both linehaul and specialized services to the ADA community. Many wheelchair trips, formerly provided by taxi companies, were now mandated to be provided by the public transit agencies. Specifically, transit systems were required to equip all new linehaul vehicles with accessible lifts and to provide ADA complementary paratransit (accessible) services to all people living within three-fourths of a mile of a transit line. Seeking even greater mobility options for residents and visitors alike, some local transportation regulatory authorities are now going beyond the federal mandate on publicly funded transit systems and requiring that ADA accessible vehicles also become part of their community's privately provided taxi fleet. This represents an unfunded mandate on the privately provided taxi industry, made with little consideration or understanding of the actual demand for these wheelchair accessible services and the additional cost to the taxi industry and its drivers.

Practical difficulties in the taxicab industry that arise from the enactment of local ADA type initiatives include additional incurred fixed and variable costs, low demand, and greater service time consumption, resulting in lower revenue per trip and per vehicle. However, there

are various alternatives and incentives for ADA-compliant taxi vehicles and companies to overcome these practical difficulties. Communities should not simply mandate wheelchair accessibility without consideration of these practical difficulties. The successful integration of taxicabs into this ADA accessible market depends upon existing regulatory structure for taxicabs, per trip subsidies, other accommodations a taxi company might receive from its local

<sup>1</sup> *The Americans with Disabilities Act* "ADA Home Page" Ada.Gov 30 Apr. 2008 <http://www.ada.gov/>

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authority and the environment in return for their successful adoption by the taxi industry.

Furthermore, agencies which impose these local unfunded mandates often fail to monitor and

evaluate their success or failure once mandated. As an example, some cities have provided new

wheelchair accessible taxi permits at a substantially lower cost than standard sedan permits, but

have then failed to assess how many actual wheelchair trips are being provided.

Unfortunately, many of the financial costs and benefits associated with these accessible

services are not readily known. Through this report, its case examples, and associated cost

evaluation software, these costs can be replicated and reasonably determined for each local taxi

company or driver. In addition, specific recommendations are provided for local authorities on

how to make accessible taxicab services more successful in their community.

Finally, please note that the authors are referring to curb-to-curb wheelchair accessible

taxicab services. Users of these accessible taxicabs would utilize these services in much the same

way a standard taxicab service is used. They would be transported from one curb (origin) to a

destination curb. The driver can assist with the wheelchair device and help the user enter and exit

the vehicle. This is not to be confused with non-standard accessible wheelchair taxi service, such

as door-through-door paratransit-type services which require additional training and special

handling.

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### **Taxicab Industry: Size and Structure**

There are approximately 171,000 vehicles licensed as taxicabs in the United States.

Most of those taxicabs are operated through 6,300 taxicab organizations. These taxicab organizations differ in many ways; how they are organized (privately held companies, driver associations, cooperatives, dispatch centers, etc.), their ability to provide comprehensive, community-wide taxicab service, and the number of taxicabs they operate. Dependent on the number of taxicabs in operation, one can divide the taxicab companies into subgroups defined as small, medium and large companies. Approximately 63 percent of all taxicab companies are extremely small, operating nine or fewer taxicabs. About 26 percent of taxicab companies are relatively small, operating between 10 and 49 taxicabs. Another five percent are medium-sized companies, operating between 50 and 99 taxicabs. That leaves less than six percent of the taxicab organizations with significantly more resources, enabling those companies to build an infrastructure that supports the operation of 100 or more taxicabs.<sup>2</sup> Furthermore, company size aside, experiments in relaxed entry regulations, combined with poor regulatory enforcement, have further eroded the ability of the taxicab industry to build a solid infrastructure that would support not only the dispatched taxicab industry, but more specific to this paper, the provision of accessible taxicab service. To provide such quality taxicab service, this infrastructure would include safe and comfortable taxicab vehicles, automated GPSType dispatch systems with vehicle tracking capability, advanced non-cash fare processing capability, competent/trained taxicab drivers, competent management teams for fleet operations, and a unique taxicab organization brand; i.e. uniform fleet-wide name and color scheme. Without a proper regulatory environment and a solid industry infrastructure, it is almost pointless to discuss placing new, unfunded service mandates on a taxicab industry consisting mainly of very small, independent units which are only loosely associated with a centralized taxi dispatch system.

<sup>2</sup> Alfred LaGasse, CEO, TLPA Rockville, Maryland at NYC Taxi Summit, April 2007.

## **Accessibility Costs**

There are a limited number of nationally recognized competitors in the wheelchair accessible vehicles conversion market. Among these, the main companies are Liberty Motors, Barnett Mobility, Freedom Motors, and Mobility Works, but there are also smaller companies such as Southern Bus and Mobility, and United Access that are operating in the Midwest. Most companies are offering new and low mileage accessible vehicles, but there is also the possibility of using one's own vehicle with a conversion package on it. The most popular vehicle for conversion is the Dodge Grand Caravan, because its width and entry height are arguably the best in the category. According to one company spokesperson, a competitor's vehicle height is two inches less than that of the Dodge, which could be a concern if the taxicab is transporting a tall person. Also, there are two main entry options, the side-entry and the rear-entry. The side-entry consists of a sliding door and a fold-out ramp along with a lowered floor to make entrance for the wheelchair passenger easier. At the rear-entry, the passenger is loaded into the back of the vehicle by means of a ramp, similar to the one that exists in the side-entry conversion. The additional seats can be folded up or down, depending on the needs and the number of passengers riding in the van. Practical problems exist with both alternatives. Some passengers prefer to not be loaded from the rear of the vehicle. Side-loading often requires that the vehicle get close to the curb. Of course, when parking is not available, the vehicle must be loaded and unloaded on the street side. This is not a preferable practice, and it is infinitely more difficult with the sideloading vehicle option. There are also extra options available, such as an automated system to open the door and unfold the ramp, but these are naturally more expensive, require more maintenance and are subject to breakdown.

### **Procurement Pattern of Taxicab Companies**

The choice of the entrance mode varies from company to company since some drivers

prefer the rear-entry and others the side-entry. This is a very subjective choice because neither system has yet been proven to be better than the other.

The choice of the entry mode depends upon the physical area in which the company is

operating; some drivers feel there is more space to load and/or unload passengers using a

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particular system within their environment. Another element to consider is the time spent helping

passengers loading or unloading. Some drivers believe that using one or the other system helps

them save time when they are assisting wheelchair users, thereby making them more productive

and able to earn more money.

The procurement pattern is very similar for all taxicab companies considering the general

purchase of the vehicles. For example, Yellow Cab of San Antonio is buying Dodge Grand

Caravans from the factory at a volume discount and then has the conversion performed by one

of the major converters. The conversion takes six to eight weeks, according to the General

Manager of Yellow Cab of San Antonio.

Other taxi companies buy their vehicles directly from a wheelchair accessible conversion

firm. These firms usually hold an inventory of low mileage, already converted vans that are

available for purchase. Taxicab companies can browse their inventory in order to find the van

they need. This procurement method is the one favored primarily by smaller taxicab companies

or independent owner operator drivers.

### **General Insurances Carried**

As is true for any other regular taxicab, cities are requiring insurance for companies

willing to operate a wheelchair accessible taxicab service to cover property damage, injury, and

liability insurance. The main difference between accessible vehicles and regular taxicabs is the

cost of the policies with respect to both property damage and liability. The accessible vehicles

are usually newer and more expensive than used sedans and therefore have greater property

damage exposure when involved in an accident. Also, rates can be expected to be more due to



the fact that proportionally more liability claims are filed by passengers with disabilities and their claims are for higher dollar amounts.

### **Type of Equipment Purchased**

If the taxicab company chooses to or receives a mandate to operate ADA compliant vehicles, they have to purchase special kinds of equipment, usually a van, in order to transport customers who use wheelchairs. Although it is possible to have a wheelchair user riding in a normal sedan taxicab if their wheelchair can fold to fit in the trunk, this method of transport, while perfectly legal, is not ADA-compliant. Therefore, taxicab companies must use a specially

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equipped van to meet ADA standards. These vehicles are more spacious and have larger dimensions as specified by the ADA. The conversion package includes other elements as well:

- Special locks to secure the passenger and his/her wheelchair
- A lower floor to make sure that the customers who use wheelchairs can enter the vehicle easily
- A suitable ramp or lift to facilitate the access to the taxicab

### **Accessible Vehicle Costs**

As listed below, accessible vehicle prices are considerably more than the \$5,000, which is typically the amount paid for used police vehicles bought at public auctions. Here are some current price examples for accessibility costs:

- A Dodge Grand Caravan with low mileage (25,000 miles) equipped with a rear entry system ranges in price from \$25,000 to \$35,000
- A brand new Dodge Caravan equipped with a rear or side entry system is sold for around \$46,000 to \$49,000
- A Ford Freestar with a mileage of around 40,000 miles equipped with a rear entry is sold for around \$27,000 to \$30,000
- A conversion package installed on a personally owned vehicle costs around \$11,500 to \$12,590

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### **Practical Difficulties**

Implementing a good wheelchair accessible curb-to-curb taxicab service in the United

States that will serve individuals who use wheelchairs efficiently, is a difficult challenge for regulators and the taxi companies alike. In addition to cost differences in the delivery of accessible taxicab services, there are a number of other issues taxi companies and drivers must deal with.

### **Usability Issue**

Fifty-four million, or 20.6% of the people living in the United States have some level of disability. However, only 1.8 million people (roughly 2.9% of persons with disabilities or well under one percent of the entire US population) use wheelchairs<sup>3</sup>. To put these numbers into perspective, there is one taxicab for every 1,778 people in the United States. If two percent of all taxicabs were ADA compliant, then there would be 3,420 accessible taxis. That equates to one accessible taxi for every 526 persons who use wheelchairs or more than three times the taxi-to-population ratio for the general public. Therefore, the issue of providing curb-to-curb wheelchair accessible service focuses only on this small wheelchair user population. Furthermore, it is not clear how many wheelchair users actually can readily use curb-to-curb taxicab service.

### **Cost Issue**

Another important issue is the additional cost that is generated by the fact that special vehicles must be used to transport certain wheelchair users who need to stay in their wheelchair or scooter. The fixed costs of these vehicles are higher than those of traditional sedan taxicabs because of both their purchase price and the special equipment that must be installed on-board. Also, ADA approved taxicabs are typically newer vehicles. Standard taxi industry procedure is to add used vehicles, which were typically police or other city/state sedans. These vehicles are usually bought at public auctions, sometimes as fleet purchases. The typical cost of such vehicles is in the \$5,000 range with another \$1,000 to \$2,000 in cost for painting and equipping with a "taxi package." This package would involve a taxi meter and other technology for

<sup>3</sup> <http://www.udll.com/articles/universal-design-eliminate-the-fear.cfm>

receiving and accepting dispatch calls, payment by credit cards and even turn-by-turn GPS directions.

Furthermore, the operating costs are also higher because wheelchair accessible vans use more gasoline due to the additional weight of the wheelchair lift. Many accessible vans are also built on full-size van chassis with larger engines, requiring greater fuel usage. In addition, these vans may not be able to tolerate the same kind of heavy urban use as a classic sedan. A Ford Crown Victoria or a used police car is outfitted with a heavy suspension system, large engine, etc., while most standard vans are not. Also, annual auto liability insurance on an ADA certified van typically costs approximately \$2,000 more than liability insurance for a sedan taxicab, and can run as high as \$6,000 more per vehicle in some states. The insurance industry representatives indicate that the additional costs result from the higher claims history for wheelchair accessible service, as previously mentioned.

These cost issues are a major reason why many taxi drivers and taxi company officials feel there is a lack of financial incentives provided by cities. Some cities such as New York City, Miami and others, have reserved a certain number of medallions for accessible taxicabs, sold at a discounted price. However, the value of those incentives may be questionable due to the extra costs generated by the use of wheelchair accessible vehicles. Extra fuel may represent a \$25 or more per day additional cost. This is especially true when comparing the fuel use of new vehicles where the choice may be between an accessible van and a more fuel-efficient hybrid vehicle.

Taxi drivers are, for the most part, independent contractors who either own or lease their vehicles from the taxi company. Taxicab companies, therefore, must give these drivers special incentives such as a lower lease rate to have them drive a wheelchair accessible taxicab, since they would derive less income from these vehicles, as well as incur significantly higher operating costs per shift.

A final practical issue is the willingness of independent contract taxicab drivers to actually respond to dispatch calls for ADA service. Unlike working with employees, independent contractors cannot be “scheduled” or controlled. That is, it is up to the drivers if they want to transport an individual – including wheelchair users. Although an accessible vehicle permit can be obtained at a special discount, these vehicles can, are often waiting hours at an airport serving predominantly non-wheelchair customers. This problem, of course, can be partially overcome by

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local ordinances requiring ADA compliant vehicles to give priority service to wheelchair users, but enforcement of such ordinances has been a problem.

### **Training Issue**

Taxi companies with wheelchair accessible taxicabs must provide these drivers with adequate training. Training might include how to install and use the specialized equipment, how to tie down the wheelchair, and how to properly assist the wheelchair user. Finally, care of the mobility impaired requires compassion and an attitude of service that is not found in every person. Thus, drivers must volunteer for this type of service.

### **Length of the Trips**

One of the main problems suggested by managers of taxicab companies operating wheelchair accessible vehicles is that the length of the trip performed for wheelchair users is usually shorter than for other individuals. Short trips, such as driving one person to the hospital that is less than five miles from their home and back, are not economically attractive for many taxicab drivers unless the driver is making a large number of these and other trips each shift.

These short trips, and the fact that their gratuity is smaller because of the lower meter

fare, are one of the major reasons that taxicab companies have a difficult time convincing their drivers to use wheelchair accessible vehicles, especially when their drivers are independent contractors. However, some taxi companies are making extraordinary efforts to serve the wheelchair user, irrespective of the trip length. These companies attempt to maintain their

driver's total income through a lower lease rate or a specific minimum amount of trips per shift.

The general manager of Yellow Cab of San Antonio reported that their taxicab company is

providing incentives to the drivers to encourage them to use ADA approved taxi vehicles,

especially during times of high demand, such as on family-oriented days and holidays. Drivers

are offered an additional free lease day when they accept a minimum of six wheelchair trips on

those special days. Additional incentives offered by Yellow Cab of San Antonio include

discounted daily (\$67 vs. \$73) and weekly (\$214 vs. \$244) lease fees; free Sunday lease for

leasing the previous complete week; free lease day for accepting 15 (non-personal) wheelchair

trips during the previous week and a free lease day for accepting more wheelchair trips than any

other wheelchair driver the previous week.

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### **Summary**

The costs associated with providing curb-to-curb accessible taxicab service can be

substantial. As an example, industry experts like Alfred LaGasse, CEO of the Taxicab,

Limousine & Paratransit Foundation (TLPA) and researchers involved in this study agree that,

"The lowest expense differential between acquiring and operating a used sedan taxicab and a used, rear entry, ramp minivan is \$21,000 in the first year and \$6,000 each additional year. With these increased costs, assuming a five-year life

span for the used wheelchair accessible vehicle, the vehicle requires at least \$10,000 more revenue per year to provide the same net return per vehicle as a sedan taxicab does over five years"<sup>4</sup>.

However, under the ADA, a taxicab company cannot charge a passenger more for

providing specialized curb-to-curb wheelchair accessible taxicab service than it can for offering

regular sedan taxicab services. In other words, the accessible vehicle takes in no additional

revenue unless it is used in contract services, whereby a more equitable rate can be negotiated.

The accessible vehicle used to serve wheelchair users typically brings in less money than

the regular trips provided by sedan taxicab vehicles. The driver must engage the lift or ramp

operation for boarding, then secure the passenger and wheelchair, then disengage the lift or ramp, and upon arriving at the destination, the driver must reengage the lift or ramp, release the securements, assist the passenger in disembarking, and disengage the lift or ramp. All these actions require a significant amount of the driver's time. As stated by TLPA's Alfred LaGasse, "These time costs result in approximately 20% fewer trips per day for a wheelchair accessible taxicab. The driver's income gets affected as an effect of time costs, thus producing driver resistance to service such trips. In effect, every unsubsidized accessible trip taken by a taxicab driver results in some revenue lost by the driver and the related taxicab company. When all these amounts are multiplied on a large scale, the effect is a loss of thousands of dollars per year. So, the more unsubsidized wheelchair accessible taxicab service the taxicab industry provides, the greater the losses will be."

<sup>4</sup>

Alfred LaGasse, CEO, TLPA, Rockville, Maryland at NYC Taxi Summit, April 2007.

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## **COMPETITION FOR SERVICE MARKET**

### **Public Transit Competition for Wheelchair Accessible Taxicab Service**

To comply with ADA requirements, most city-owned transport systems in the U.S. are providing their users with public transportation services that meet or exceed those requirements, or at least they are working on meeting them. As previously mentioned, the law requires the provision of ADA complementary paratransit services by public transit to anybody who is eligible and within three-fourths of a mile from either a bus or a rail line. The market for traditional taxicab service suffers from this competition from other paratransit services that are put into place by cities in an attempt to improve their service for the mobility impaired. As Hal Morgan, Executive Vice-President of TLPA stated, "Anyone who is ADA eligible is not going to pay an \$18 cab fare when he or she can use complimentary paratransit and take the same trip for \$2." The vast majority of these passengers do not require a wheelchair, but may require some assistance from the driver; a time honored tradition for good drivers in the taxicab industry. Those passengers utilizing a wheelchair were often assisted with a transfer from their chair to the

taxi then the wheelchair was folded into the trunk of the taxi. The taxi industry still makes this type of service available to wheelchair users every day in the cities they serve. The reality is that the market for truly wheelchair accessible taxicabs outside of ADA complementary paratransit service, is very limited and consists mainly of people who are not ADA eligible. There are locations where it is hard to obtain public transportation, such as an airport. Even there, however, the total number of wheelchair accessible trips, as shown by the accompanying survey, is quite small in comparison to the general population. Another possible taxi market is for those individuals who require immediate transportation in the case of an emergency or after-hours when public transportation may not be operating. However, when a city implements significantly more ADA complementary paratransit service, wheelchair accessible taxicabs trips go down. Public policy that mandates wheelchair accessible taxicabs on the one hand, and then subsidizes the competition for these trips through extensive paratransit subsidies on the other hand, is counter-productive. It is impossible for the private taxicab industry to compete with the publicly financed or ADA complementary paratransit services provided by public transit authorities. It's simply impossible to compete with free or relatively free transportation service.

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### **OVERCOMING IMPEDIMENTS TO ACCESSIBLE SERVICE PROVISION**

Implementing a wheelchair accessible taxicab service raises a certain number of challenges. First and most obvious is the cost. Having wheelchair accessible taxicabs that are more expensive to purchase, insure and operate are impossible for unaffiliated single individual permit owners to manage on their own. They must have some form of central dispatch and accountability in order to be effective. Integrating accessible trips with regular taxi trips efficiently is the desired outcome. Due to the fact that wheelchair accessible taxicabs are more expensive to operate, it is important for companies to have these vehicles performing normal trips when they are not in use by wheelchair users, a topic more fully developed below. Thus, a centralized dispatch system,

whether for independent taxi drivers or a full service taxi company, is required because it will enable taxicab companies or a central dispatch operator to monitor the accessible taxicabs and dispatch them as required.

Finally, there is also the issue of competition. It will be difficult for private taxicab companies to operate a viable accessible taxi program if they are competing against highly subsidized public transportation programs. If there is a high level of ridership on either subsidized public transportation or non-profit subsidized services, then the market will be relatively small or non-existent for unsubsidized accessible taxi trips.

### **Integrating Accessible Trips with Regular Taxi Trips**

At issue, is the necessity to limit the idle time of wheelchair accessible vehicles since they are more expensive to operate. The best way to achieve this is to have the drivers carry out non-wheelchair taxi trips as well. It must be stated, though, that wheelchair users must be given the priority over able riders for these specialized vehicles. Therefore, there is a trade-off between the taxicab drivers who are attempting to make money by maximizing the use of their taxicab and the wheelchair users who do not want to wait longer for their ride. In order to reduce this problem, smaller taxicab company officials may want their clients to reserve their ride at least 24-hours in advance. It may even be good public policy to support advanced reservations for wheelchair accessible taxis, because the provision of an advance pick-up notice, when possible, can help to achieve the desired level of service. Under the ADA guidelines, however, the wheelchair user must receive equivalent service if that service is offered, and taxicab companies

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are not permitted legally to require advance notice, whereas some public transit and paratransit systems may, and do, require advance notice as a condition of receiving the subsidy for their trips. Of particular concern, this practice of advance notice required by public agencies, could also prevent their wheelchair users from having a secure ride in the case of an emergency. By



supporting and subsidizing wheelchair accessible taxicabs, a community may be able to lower its costs of subsidy per trip and achieve a higher, safer level of service at the same time. Taxicab drivers, would like to, but do not require advance notice, for either going to the destination or returning. Unlike on most public transit and paratransit systems, accessible taxicabs also would provide the user with exclusive use of the vehicle. In a taxicab, the individual passenger goes to and from the destination unless group riding is in effect, but even then, due to the capacity of a taxicab versus that of a cutaway bus, the "group" ride usually means only one or two other individuals.

In communities where there is no major full service taxi company dispatch, a coordinating agency must be established to receive calls for service and contact the nearest wheelchair accessible taxi vehicle. Once a taxi driver has completed a call from this centralized dispatch, they revert to their company dispatch system if there is one. Unless the wheelchair accessible taxi is associated with a full service taxi company, they then work the airport, hotels, other public taxi stands or personals. Unlike taxis in operation with a full service taxi company, these vehicles tend to achieve much lower revenues per hour of service, and are therefore often unable to absorb the increased costs and low utilization associated with a wheelchair accessible taxicab. As previously mentioned, some of these wheelchair accessible taxicab drivers often refuse trips if it would involve significant deadhead (unpaid) mileage for a short trip fare.

Some taxicab companies are operating as partners and are working with the same central dispatch. This type of cooperation is the case for the City of Chicago and its suburbs where the taxicab operators are united under the TAP (Taxi Access Program) which is coordinated by Pace, (Pace is the suburban bus division of the Regional Transportation Authority in the Chicago metropolitan area). Under this program, wheelchair users can call a toll-free number and access the nearest available wheelchair accessible taxicab from one of the companies participating in

the program. In another example, starting on November 3, 2008, accessible taxicabs receive priority when being dispatched at JFK Airport. The Port Authority of NY-NJ is sponsoring this

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pilot program as an incentive to encourage taxicab drivers to provide service to people with disabilities.

Thanks to the use of a centralized dispatch system, a taxicab company is better able to

manage the process of accepting, scheduling, and documenting the rider. Also, with the use of

GPS tracking it is possible to monitor where the taxicabs are and to give the customer an

accurate estimate of his or her pickup time. These central dispatch systems can be, and typically

are, equipped with the electronic means to capture this data. Electronic readouts show that the

trip was made using the shortest possible distance and cost to the individual or supporting

agency.

### **Full Service Taxi Companies - The Best Integrators**

For provision of wheelchair accessible taxicab services, the benefits of a full service taxi

company are quite obvious. Full service taxi companies have sufficient vehicles to service a

wide geographic area and provide extensive marketing, training, modern GPS dispatch, corporate

vouchers, school trips, special event services, etc.

Denver, Colorado is one city where wheelchair accessible taxicab service is integrated

into full service taxi companies. Regulated by the State of Colorado Public Utilities Commission,

Denver taxis, like many U.S. city taxis, have never been severely fragmented through open entry

taxi deregulation.. Until a couple of months ago, three taxi companies existed to service this

large western community and its surrounding area. Two of these firms, Denver Metro Taxi and

Denver Yellow Taxi are large full service taxi companies with extensive modern dispatch and

marketing efforts. With several hundred taxis, most company-owned, each is fully capable of

serving the entire metropolitan area with efficient, relatively quick, on-demand taxi service at all

times throughout the day or night. Taxis in Denver are not medallion cabs, so the major capitalization of operations lies in the taxicab companies providing the market opportunities for their independent taxi drivers to serve. Denver Yellow Cab, for instance, has more than twenty different leases for drivers to choose from – one being for a wheelchair accessible vehicle.

Drivers can choose to select the lease that best suits their preferences for driving times or market.

The lowest lease rate would be an owner operator wishing to serve only the airport, while the highest lease rate would be for a new Prius vehicle with full dispatch services.

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Officials in both of these taxicab companies, valuing their service to the community and in competition with each other, are offering wheelchair services to the community with no

advance reservations or other special requirements or fares in addition to their respective

contracted wheelchair accessible services. Denver Metro currently has 20 wheelchair accessible

vehicles in operation while Denver Yellow Cab utilizes a similar number of these wheelchair

accessible taxis. Each company dispatches their own wheelchair accessible vehicles as calls

come in. Each will call the other if they are unable to provide service for the caller, but this

seldom occurs since their current supply outstrips current demand. This is only possible

however, because these full service taxi companies have generated enough regular taxi trips for

their drivers that wheelchair accessible trips can be easily integrated into regular trips, making it

economical and remunerative for drivers to select these lower lease rate wheelchair accessible

vehicles to drive. Only through an integration of some contracted wheelchair services and nonwheelchair

trips is this service available to the community without the requirement of a subsidy

or other financial assistance. Taxicab companies who are not subsidized in any way can only

make this service possible with the presence of healthy full service taxi companies serving the

community.

The third taxicab company in Denver, Freedom Cab, was initiated following a lawsuit that had the effect of forcing the PUC to admit at least one other taxi company to the market.

Managers with this new company, holding 50 taxi permits at first, and an additional 100 permits through later application, chose not to be a full service taxi company. This company is currently using owner/operators and is serving primarily only the airport and downtown hotel stands. The operation has been unable to provide sufficient internal capital for modern dispatching, marketing, and business development. None of its owner/operator taxi drivers has elected to purchase and operate wheelchair accessible vehicles. There is no way an operation of this type can provide accessible wheelchair service unless there is substantial financial assistance

(subsidy) and a centralized dispatch, due to the cost and lack of demand. As this illustration shows, the type of taxi operations and even individual taxi companies within the community definitely affects the probability of accessible services without the need for subsidizing all wheelchair accessible trips. Within the full service taxi company framework it is definitely possible, as shown in the case of Denver and other cities. However, just as visible is the impossibility of doing so without substantial financial assistance to less than full service

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taxi companies. This is especially the case in communities that may have seriously fragmented their local taxicab industry through allowing open entry and/or the development of multiple small taxi companies that are then unable to generate sufficient capital for wheelchair accessible vehicles, modern GPS based dispatching, and extensive market development. Through the foregoing discussion of practical difficulties, it should be obvious that communities wishing to implement local ADA requirements for taxicab companies can probably only do so if they have full service taxi companies or some form of central dispatching and accounting responsibility. Those communities which regulate the number of taxi companies to only a few full service taxicab companies, and work with companies to not oversupply the

community with too many taxicabs, would be in the best position to successfully implement accessible taxicabs throughout their service areas.

### **Continuum of Full Service Taxi Companies**

At the top of the above slope, Category #1 represents the total or historical taxi firm. In

this category, a taxi firm provides drivers (as employees) significant advertising, comprehensive

#1

Total Taxi Firm

#2

Taxi Firm/Vehicle Lesser

#3

Permit and Vehicle - Only Lesser

#4

Permit Owner/Operator Independent

#5

Permit Only Lesser

### **Individual Driver Orientation**

#### **Taxi Company**

#### **Orientation**

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computerized radio dispatching, insurance, credit card and corporate voucher processing, and fleet maintained vehicles. Moreover, this type of taxi firm provides for collective agreements

with major clients or social service agencies, accepts credit cards with no additional charge, and

represents a firm that stands behind its service -- often trying to differentiate its service from the

competition. These firms accept all major credit cards, establish voucher systems with hotels and

airlines for group rides, and often pre-sell their services to conference and convention groups.

Only one major city currently has this type of full service taxicab firm utilizing employee drivers

- Las Vegas, Nevada.

Competitive pressures and industry interests pushed for the elimination of drivers as

employees in virtually all other major U.S. cities. In their place are the less costly independent

contractors or lease drivers (Category #2 in Figure 1). At this level the taxi firm retains all the

service and obligations of its former common carrier status, i.e., insurance, vehicle ownership,

dispatch, service agreements, etc., but elects to lease or rent its fleet vehicles to independent

contractor drivers. These independent drivers then decide whether or not to take dispatched trips as they are presented. As independent drivers, the taxi firm dispatchers may only offer the passenger trip. Usually the dispatch offer for business is taken, but not always. In order to maintain the non-employee status, the taxi firm dispatchers may not order a driver to take any particular call.

This system provides much greater flexibility for the driver to choose his/her own working hours, the taxi stands to frequent, and a greater opportunity to develop personals. There is also an economic gain to the traditional taxi firm to move to Category #2, (e.g. no employee taxes, wages, liability for driver accidents, and less record keeping), but there may be a noticeable loss of managerial control. As stated above, a driver does not have to accept a dispatched call, but rather can elect to wait for a better fare. This is true of drivers of wheelchair accessible taxicabs also. Drivers may choose to go to the airport and wait for more lucrative airport trips rather than serve time-consuming and shorter ADA supported trips. On the other hand, if the city taxi driver permit requires that the drivers do not turn down offered fares (dispatched trips), then the service levels and service management can be maintained. This is especially true when computerized dispatching systems are utilized. Drivers who frequently turn down ADA trips or less desirable fares can be quickly identified in the system's data analysis.

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Another level of taxicab firm is represented by Category #3 in Figure 1 -- Permit and Vehicle-Only Lesser. In this scenario, a single individual, acting as a taxi firm, will lease his/her taxicab permit(s) and vehicle(s) with insurance to independent contractor drivers. Such an individual or firm can provide all the dispatching and marketing of a Category #2 firm. Often good taxi cooperatives are managed this way. However, just the opposite could also occur when the taxi company does not provide central dispatching, GPS positioning, data maintenance, and

invoicing for ADA and other voucher trips. Some Category #3 firms will do very little to support their taxi fleets other than provide for the use of a taxi permit, the company colors, perhaps insurance, and a general listing in the Yellow Pages local phone book. Today, this is possible because almost all drivers have cell phones for quick connection to other drivers and for use with regular patrons. In summary, this Category #3 taxi firm could offer all the amenities and support of a Category #2 firm but simply chose not to have their own vehicles, and maintenance operations. However, some Category #3 firms would offer no real 24-hour dispatch service, advertising, service contracts, credit card, or voucher support. Thus, they would leave their associated taxis to operate much like Category #4 firms below. The fourth category on the continuum of taxi firms is that of the single permit owner/operator. In this scenario the holder of the permit is also the driver. This driver typically does not have availability of dispatch and/or service contracts with hotels and is forced to work the public cabstands, primarily the airport, and any "personals" he/she may develop. In this scenario, the taxi driver is an independent driver contracted mainly to the city or airport or both. Thus, the airport or the city becomes the de-facto personnel department for these drivers. The city or airport's responsibility is to screen them (issue a permit), manage their conduct (require that they follow the taxi ordinances), and discipline them when necessary (issues, citations/violations). Furthest away from the traditional regulated taxi firm is Category #5 -- Permit Only Lessor. In this scenario the holder of city or airport permits simply pays the city an annual fee for the permit privilege and then leases it to the independent taxi driver who must provide his own vehicle, insurance, maintenance, etc. associated with operating a taxicab. Nothing else is provided. In essence, the permit, or in some cities the taxi medallion holder provides no additional economic value to the permit other than to lease it to a city-licensed taxicab driver and

inspected vehicle. In this scenario, the city or airport again assumes the role of being the

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personnel department for the independent taxicab drivers. In addition, the airport under this

scenario also becomes the stand dispatcher for these taxicabs when they operate at the airport.

As shown, this continuum of taxicab firms ranges from the total taxi firm which adds

significant economic value to the city's taxicab permit, down to that of a simple permit holder

who leases a the taxi permit to the highest bidder. At the high end of this continuum, the total

taxi firm is adding significant value to the city permit using their own employees.

As we move

toward the concept of the independent driver who owns their own vehicle, the city or airport

inherits a much greater role in the management of these taxi drivers on a day-to-day basis. For

obvious reasons, the probability of a successful community-wide wheelchair accessible program

will be significantly greater if the community is dealing with full service taxi firms described as

Category #1, Category #2, and certain Category #3 taxi companies.

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### **Legal Obligations**

Both taxi operators and citizens often ask, "What are typical taxi companies required to

do in the way of making their service available to wheelchair users?" The answer is that while

the ADA does not require the taxicab industry to operate wheelchair accessible vehicles, it does

place some requirements on sedan taxicab operations.

Taxi services must comply with ADA requirements as private companies, primarily engaged

in the business of transporting people that provide demand-responsive transportation. Under the

law, each taxi service shall ensure that personnel are trained to proficiency. Not only does this relate

to the safe operation of vehicles and equipment, drivers must be able to properly assist and treat

customers with disabilities in a respectful and courteous way.

Taxi companies and drivers must provide service in a manner that does not discriminate

against people with disabilities. Examples of discriminatory service include:



- the company or the driver denying service to individuals with disabilities who can use taxi vehicles
- the company or the driver charging higher fares or fees to passengers with disabilities
- the company or the driver denying a ride to a customer using a service animal
- the driver refusing to assist with stowing wheelchairs or other mobility devices

A taxi service and driver cannot deny a ride to an individual because of his/her disability if he/she is able to use a taxi. If the person is using a wheelchair or other mobility aid that can be stowed in the cab, and the passenger can transfer from a wheelchair to a vehicle seat, the company and the driver must provide service. Neither the company nor the driver can require the passenger to wait for a lift-equipped van. Drivers also cannot refuse to assist with stowing a wheelchair in the trunk, since taxi drivers routinely assist passengers without disabilities with stowing luggage.

Drivers cannot charge a higher fee or fare for serving a person with a disability, nor charge a higher fee for stowing a wheelchair. Charging the same fee for stowing a wheelchair as for stowing a suitcase or other items would be proper.

The "Americans with Disabilities Act" applies to paratransit and for-hire transportation services in Section 223 under federal law. For the purposes of Section 202 of ADA and Section #504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), paratransit and other special transportation services must (1) provide transportation comparable to the level of services provided to individuals without disabilities utilizing the system and (2) exhibit comparable

21 response times as well, while charging the same fare for all customers. Elements of equivalent service include:

- Response time
- Fares
- Geographic area of service
- Hours and days of service
- Availability of information
- Reservations capability
- Any constraints on capacity or service availability

Restrictions priorities based on trip purpose (if the system is demand responsive)

The ADA does not require 100% fixed route accessibility, but instead requires that the public transit system, including paratransit services, provide the wheelchair user with services that are comparable to the services offered to the non-disabled<sup>6</sup>.

### **ADA Requirements for the Taxicab Industry**

While “automotive body type” taxicabs are exempt, the following are requirements by the Americans with Disabilities Act for ADA compliant vehicles if utilized by taxi companies.

These requirements are based on the publication, *The Americans with Disabilities Act and You:*

*Frequently Asked Questions on Taxicab Service*, presented by Easter Seals Project ACTION and the Taxicab, Limousine & Paratransit Association:

For vehicles ***in excess of twenty-two feet in length***, the overhead clearance between the top of the door opening and the raised lift platform, or highest point of a ramp, shall be a minimum of 68 inches.

For vehicles of ***twenty-two feet in length or less***, the overhead clearance between the top of the door opening and the raised lift platform, and the highest point of a ramp, shall be a minimum of 56 inches.

Accessible taxicabs must have a two-part securement system: (1) to secure the common wheelchair, and (2) a seatbelt and shoulder harness for the customer using a wheelchair.

The securement aids should move no more than 2 inches in any direction during normal driving operations. If the vehicle is more than 22 feet in length, then the vehicle must have securement devices for two wheelchairs.

<sup>5</sup> *The Americans with Disabilities Act and You: Frequently Asked Questions on Taxicab Service* The Taxicab, Limousine, and Paratransit Association. Retrieved January 15<sup>th</sup>, 2008 from <http://www.TLPPF.org/news/adanotice.pdf>

<sup>6</sup> *Case Law: Tandy v. City of Wichita, 208 F.Supp.2d 1214 (D.Kan. 2002).*

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There must be enough room inside the vehicle so the customer using a mobility aide can reach the securement location.

Side-facing securement is not permitted in vehicles 22 feet or less in length.

- Lift or ramp must be 30 inches minimum and hold a capacity of at least 600 lbs.
- Lift or ramp surfaces, securement locations, and all places where people walk must have continuous and slip-resistant surfaces.
- Ramp slope shall not exceed 1:4 when deployed to ground level.
- There shall be a minimum of 30 inches by 48 inches for a floor clearance area.
- Vehicles 22 feet in length or less must have only forward or rear seating only.
- Ramp stowage should be safe and non-hazardous to people.

The categories of ADA complementary paratransit eligibility mentioned by the ADA are related to the nature of the disability of the person and his or her ability to access the fixed routes transportation system. These following categories are utilized to help analyze the public necessity for accessible taxicabs.

**Category 1:** *"Any individual with a disability who is unable, as the result of a physical or mental impairment (including a vision impairment), and without the assistance of another individual (except the operator of a wheelchair lift or other boarding assistance device), to board, ride, or disembark from any vehicle on the system which is readily accessible to and usable by individuals with disabilities." [37.123(e) (1)]*

This category refers to persons who are totally unable to navigate through the public transportation system because of mental or visual impairment (inability to board the right bus for example), physical disability (inability to stand up in a crowd for instance), and/or wheelchair users that cannot board because of the absence of a lift.

**Category 2:** *"Any individual with a disability who needs the assistance of a wheelchair lift or other boarding assistance device and is able, with such assistance, to board, ride, and disembark from any vehicle which is readily accessible to and usable by individuals with disabilities if the individual wants to travel on a route of the system during the hours of operation of the system at a time, or within a reasonable period of such time, when such a vehicle is not being used to provide designated public transportation on the route." [37.123(e)(2)]*

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This category relates to people who, despite their disability, are able to use the public

transportation system provided that it is equipped with devices to make it accessible to them.

The people in this category are therefore eligible if the route they intend to use is not fully

accessible, even if some other part of the transportation system is accessible.

**Category 3:** *"Any individual with a disability who has a specific impairment-related condition*

*which prevents such individual from traveling to a boarding location or from a disembarking*

*location on such system" [37.123(e) (3)]*

Two important qualifiers to this category are included in the regulations. First, environmental conditions and architectural barriers not under the control of the public entity do

not, when considered alone, confer eligibility. If, however, travel to or from a boarding location

is prevented when these factors are combined with the person's specific impairment-related

condition, paratransit service must be provided. Examples of architectural and environmental

factors that, in combination with certain disabilities, could prevent travel include: a lack of curbcuts,

the distance from the stop/station to the trip origin or destination, steep terrain, snow and/or

ice, extremes in temperature (hot or cold), major intersections or other difficult to negotiate

architectural barriers, temporary construction projects, and severe air pollution

### **Financial Incentives**

In an effort to limit the public sector's cost of implementing ADA paratransit service,

various local and state authorities have offered incentives for taxicab owners and companies to

add a percentage of ADA approved vehicles to their fleets. Some cities, such as Miami and New

York City, have increased the number of taxi medallions, pricing the medallions for accessible

taxicabs far less than regular sedan medallions. Miami's regular taxi permit through their annual

auction is priced at \$30,000, while wheelchair accessible permits are priced at \$15,000. Once

these permits have been in operation for 5 years, owners may sell them on the open market,

bringing as much as \$200,000 and more. New York City, which previously issued new

wheelchair accessible taxi permits for a 16% discount, have now mandated that these wheelchair

accessible taxis may also go to the head of the taxi line at JFK Airport.

In addition, there are two main tax incentives under President Bush's New Freedom Initiative that are available for businesses that comply with ADA requirements. The first one, the  
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"Architectural/Transportation Tax Deduction," can be found in Section 190 of the Internal Revenue Code. It is directed toward all passenger transportation businesses with the maximum tax deduction amount at \$15,000 (but it is limited to one vehicle per year). Its purpose is to help companies remove all physical, structural and transportation barriers, i.e. the modification of a vehicle to make it wheelchair accessible. The second incentive can be found in Section 44 of the Code, "Disabled Access Credit". This tax credit is aimed at small businesses with less than \$1,000,000 revenue last year and with a workforce fewer or equal to 30 fulltime employees. The credit can be used for most expenses to comply with the ADA, such as the purchase of adaptive equipment or the removal of architectural barriers. The amount of the tax credit can be used to cover 50% of the total eligible excess expenditures by the company in a year, within the boundaries of \$250 and \$10,250, or a maximum deductible amount of \$5,000.

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## **Current Usage Documentation**

### **Airport Accessible Taxicab Survey Analysis**

A short survey was sent by e-mail to the top 100 North American airports, primarily to landside managers. The list of contacts, fax and emails was provided by the AGTA (Airport Ground Transportation Association). A few sample questions used in the survey follow.

1. Do you have statistics about the daily, weekly or monthly use of taxicabs at your airport? If yes, please provide the data.
2. Do you dispatch wheelchair accessible vehicle services at your airport? If yes, what kind? If not, what reasons apply?
3. Why do you provide wheelchair accessible vehicle service?
4. Do you have any data about the actual count of wheelchair accessible vehicles used at your airport? If yes, please provide the data?

### **Statistical Analysis of the Survey Results**

The following is a summary of the statistical analysis results based on the 49 surveys, with a return rate of 50%. Of those the 49 surveys returned, 42 airports were compiling statistics about the utilization of all taxicabs at their airports. There is a wide range in the number of daily trips provided by taxicabs at the airport.

**Daily Usage of Regular Taxicabs at the Airport**

- 0
- 1000
- 2000
- 3000
- 4000
- 5000
- 6000
- 7000
- 8000
- 9000
- 10000
- ALB
- AUS
- CHM
- CHS
- DAL
- DCA
- DIA
- FLL
- IAH
- IND
- KCI
- LAS
- LAX
- LIT
- MCO
- MDW
- MIA
- MKE
- MSP
- MSY
- ONT
- PHL
- PIT
- POR
- RIC
- RNO
- RSW
- SAN
- SEA
- SJC
- SLC
- SNA
- STL
- TPA
- YEG
- YUL
- YWG
- YYZ
- 26

The table below shows data regarding the average number of taxi trips that are dispatched daily at the 49 North American airports surveyed. Out of the 49 airports surveyed, ten airports were unable to provide the data requested for daily taxicab usage.

**North American Airports' Number of Daily Taxi Trips Based on Survey**

Airport Code  
 City  
 Number of  
 Daily Trips  
 Airport Code  
 City

**Number of  
Daily Trips**

ABQ Albuquerque Unavailable  
MIA Miami 3200  
ALB Albany 133  
MKE Milwaukee 262  
ANC Anchorage Unavailable  
MSP Minneapolis 200  
AVL Asheville Unavailable  
MSY New Orleans 1644  
AUS  
Austin-  
Bergstrom 700  
ONT  
Ontario  
4401  
CHM Columbus 550  
ORF Miami Unavailable  
CHS Charleston 200  
PHL Philadelphia 1950  
DAL Dallas 365  
PIT Pittsburgh 633  
DCA Washington 5000  
PDX Portland 720  
DIA Denver 795  
RIC Richmond 100  
DTW Detroit Unavailable  
RNO Reno 66  
FLL Fort Lauderdale 1100  
RSW Fort Myers 272  
HNL Honolulu Unavailable  
SAN San Diego 1900  
HOU Houston Unavailable  
SAT San Antonio Unavailable  
IAH Houston 1200  
SEA Seattle 1800  
IND Indianapolis 435  
SJC San Jose 1050  
JAN Jackson Unavailable  
SLC Salt Lake City 919  
KCI Kansas City 25  
SNA Santa Ana 1000  
LAS Los Vegas 8654  
STL St Louis 890  
LAX Los Angeles 4000  
TPA Tampa 250  
LIT Little Rock 105  
YEG Edmonton 400  
MCO Orlando 1640  
YUL Montreal 2800  
MDW Chicago 3023  
YWG Winnipeg 666  
MEM Memphis Unavailable  
YYZ Toronto 3287

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**Dispatch of wheelchair accessible taxicabs**

Thirty-two of the 49 airports dispatch wheelchair accessible taxicabs, a figure that represents around 65% of the respondents. This chart illustrates the main reasons stated by the interviewees:

Analyzing other reasons given by airports for why they dispatch wheelchair accessible taxicabs, some managers explained that despite the fact that the demand was low, they are

providing wheelchair accessible taxicabs in order to improve their customer service.

### **Non-Dispatch of Wheelchair Accessible Taxicabs**

Among the 49 airports surveyed, 17 were not providing wheelchair accessible taxicab

service, representing 34% of the respondents. When asked why they chose not to, respondents

stated several reasons, illustrated on this graph.

Reasons Why Airports Implemented Accessible Taxicab Service

45%

13%

26%

16%

**ADA Compliance**

**Viable Market & Other**

**Reason**

**ADA Compliance, Viable**

**Market, & Other Reason**

**No Response**

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### **Actual Count of Wheelchair Accessible Taxi Use at Airports**

Minimal data was available about the actual count of the wheelchair accessible taxi usage

at the responding airports. In the end, only nine of the respondents had such data available.

While the response rate to this query was low, the range for those who did respond went from a

high utilization at one airport of 10 accessible taxi trips per day to a low utilization of only one

accessible taxi trip per day at another, representing a current utilization rate of less than 1/10 of

1% of the total taxi trips dispatched by North American airports.

### **Airport Accessible Van Demand**

More detailed data on wheelchair usage at U.S. airports has been gathered by the

SuperShuttle Corporation. As shown by data collected by the country's largest shared ride van

company, the actual demand for airport wheelchair accessible vans is relatively low in

consideration of the supply currently provided at the airports served by this company. While

SuperShuttle officials feel that all ground transportation providers should provide accessible

service, they urge caution in requiring more than the market demands due to the real costs

involved in equipping a van which wheelchair access and additional operational costs involved

with such services.



**Why Airports  
Have  
Not Implemented  
Accessible Taxicab  
Service 6%**

10%  
43%  
6%  
11%  
6%  
6%  
6%  
6%

**Small Market  
Not Provided By Taxi  
Companies**

**Other**

**Small Market & Other  
Small Market & Not Provided by  
Taxi Companies**

**Not Required By Law & Not Provided by Taxi  
Companies**

**Not Required By Law, Not Provided by Taxi  
Companies, and Other**

**Not Required by Law, Small Market, &  
Not Provided by Taxi  
Companies**

**No Response**

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**SuperShuttle International  
Vehicle Inventory  
City Vehicles**

**Accessible**

**Vehicles % of fleet**

Austin 30 2 6.67%  
Nashville 20 2 10.00%  
Burbank 70 3 4.28%  
Baltimore 80 3 3.75%  
Washington 125 4 3.20%  
Dallas 80 2 2.50%  
Denver 75 2 2.67%  
Houston 60 2 3.33%  
KC 30 2 6.67%  
LA 215 6 2.79%  
Minneapolis 35 4 11.42%  
NYC 125 4 3.20%  
Ontario 80 4 5.00%  
Phoenix 105 6 5.71%  
San Diego 75 2 2.67%  
San Francisco 105 4 3.81%  
Sacramento 45 3 6.67%  
Tampa 60 2 3.33%

**Total 1,415 57 4.02%**

**SuperShuttle International**

**Reservation Breakdown**

**City Total Res. ADA Res % ADA**

Austin 7,609 12 0.16%  
Nashville 1,054 1 0.09%  
Burbank 10,020 26 0.26%  
Baltimore 16,164 47 0.29%  
Washington 21,419 78 0.36%  
Dallas 17,687 45 0.25%  
Denver 13,929 34 0.24%  
Houston 11,165 20 0.18%  
Kansas City 4,870 1 0.02%  
Los Angeles 46,211 175 0.38%  
Minneapolis 5,183 91 1.76%  
NYC 28,313 56 0.20%  
Ontario 10,411 47 0.45%  
Phoenix 35,466 129 0.36%  
San Diego 13,504 101 0.75%  
San Francisco 28,311 49 0.17%

Sacramento 7,648 54 0.71%  
Tampa 17,977 65 0.36%  
Total 296,941 1,031 0.35%

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As shown by these recent airport statistics, the actual ADA wheelchair demand at airports

served by SuperShuttle was approximately one third of one percent of its ridership. Alternatively

stated, four percent of their fleet had 12 times the capacity presently required by wheelchair

users. SuperShuttle did not allow this four percent of their fleet to remain idle they utilized them

to transport non-ADA passengers as well. Thus, the extra acquisition and operational costs of a

wheelchair accessible van was borne by SuperShuttle and its franchise drivers.

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### **Implementation Strategies**

There are number of successful implementations strategies for developing the wheelchair

accessible taxi market, a few of these are presented below.

#### **City of Boston**

The City of Boston currently has 1,640 taxicabs operating within in its metropolitan area.

Among these, 2.3% are wheelchair accessible vehicles, representing about 38 accessible

taxicabs. According to an interview with a spokesperson with the City of Boston:

- Their evaluation process to see if additional medallions are needed is based on a formula,

taking the increase in population and the number of trips provided from the airport into

account.

- They meet with wheelchair users twice a year and, so far, those persons are very satisfied

with the wheelchair accessible taxicab services provided by the companies.

#### **City of Portland**

According to Mr. Dufay, spokesperson for the City of Portland, there are 382 licensed

taxicabs currently operating; and of these, 38 (10%) are wheelchair accessible.

Portland requires

that every company operate at least 20% of their fleet using accessible taxicabs.

There is an

exception, which is that companies can operate a reduced percentage (10%) if they belong to the

Portland Accessible Cab Association (PACA). PACA is an inter-company agreement that

requires members to work cooperatively to ensure the best possible service to customers that

require an accessible vehicle. All of the Portland companies choose to belong to this association.

In addition to those 38 accessible taxis, Broadway Cab operates 35-40 accessible

Specially Attended Transportations (SAT) vehicles. SAT vehicles are permitted by and unique

to the City of Portland. They are for-hire vehicles, but are restricted to providing service only to

public agencies such as the local transit district, Medicaid brokerage and school districts. While

these vehicles are not taxicabs, they do play an important role in keeping the supply and demand

for accessible vehicles in balance.

Also, according to Mr. Dufay, it is very difficult to assess whether or not the supply and

the demand for wheelchair accessible taxicabs is appropriate. Some representatives from both

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sides of this issue are dissatisfied. On-the-one-hand, he meets with people who complain about

the lack of consideration from the taxicab companies and about the fact that they have to wait a

long time before pick-up. On-the-other-hand, taxicab companies complain about the fact that

their wheelchair accessible vans were under-utilized and that the trips provided were too short to

provide sufficient profit.

### **City of Houston**

Houston appears to be more advanced when it comes to providing wheelchair accessible

taxicab services. Among the 2,245 taxicabs operating within the city, 200 are wheelchair

accessible. One hundred-fifty of these vehicles are operated under a paratransit contract from the

local transit agency, METRO, and are available only on a limited basis for the general public.

However, the remaining 50 accessible taxicabs (2.2%) have been integrated into Houston Yellow

Cab's.

Officials of METRO decided to not provide large amounts of publicly operated paratransit transportation, preferring to lower their costs by contracting out this market to private

providers, of which there are currently two. In order to help the passengers obtain good

wheelchair accessible service, METRO subsidizes every ADA mandated trip at an average of

\$20 per trip. Also, Houston Yellow Cab is using current federal tax incentives to assist in the cost of the conversion of their vans in their “on demand” fleet. According to an official at METRO, the program is successful, and they recently renewed the contract with Houston Yellow Cab. This official further stressed that the population in the Houston area is aging and as a result, they anticipate there will be more demand in the future for wheelchair accessible services. The experience of Houston Yellow Cab illustrates the fact that such a service is far more likely to be successful if the taxicab company is working as part of the publicly sponsored (subsidized) complementary ADA paratransit program rather than competing with it. With the contract that was awarded to Houston Yellow Cab, the company is enjoying market density since it is, in a practical sense, one of the few options available for “on demand” wheelchair users.

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### **City of San Francisco**

In 1978, Luxor Cab of San Francisco implemented a full-service accessible taxicab system through its paratransit program with Caltrans. One of the main reasons Luxor Cab implemented an accessible taxicab service was to fulfill the needs of the wheelchair users in the San Francisco community; the owner was also personally motivated because his mother was disabled. Currently, there are 47 accessible minivans out of Luxor’s 210-taxicab fleet. According to Luxor officials, the customer demand for accessible taxicab service is higher in San Francisco than in other cities. On a daily basis, there are an average 60 to 80 ADA subsidized trips dispatched from Luxor’s office, not including personal wheelchair user phone calls for accessible service to taxicab drivers. As a result, Luxor Cab’s accessible minivan fleet is larger than that of other taxi companies, so they can cover the demand of the entire San Francisco area. This demand level, however, is only 3 trips per van per day, so these vans must also service nonaccessible wheelchair trips in order to be profitable.

Again, a discount is awarded to drivers who operate an accessible taxicab. Most importantly, the City issues paratransit coupon books to wheelchair bound citizens with a face value of \$30, but the citizen only pays four dollars. Based on the service required, the paratransit customer can receive up to \$300 per month in taxi script (paratransit coupons). The City chooses to fund the users, not the service providers. The city then pays the taxicab company when the coupons are submitted. From here, the taxicab company pays its independent contractors for the trips serviced that used the payment coupon. Although the Luxor Cab has successfully implemented a full-service accessible taxicab system, the company has encountered several problems. For one, maintenance costs for the Dodge and Ford minivans have been quite high. Adding an additional 750-1,000 pounds of equipment for accessible vans adds a lot of strain on the vehicle's transmission, brakes, and other parts as well. On top of that, San Francisco has large hills, further depleting fuel efficiency. Luxor Cab also converted from side-entry accessible vans to rear-entry accessible vans because many passengers were breaking the van's gate when entering the vehicle. Rear-entry taxicab vans prevent such gate damage, but are troublesome when wheeling a passenger into the vehicle on a large hill, and in terms of unloading and loading passengers, there is a substantially greater time requirement compared to loading regular passengers. Furthermore, Luxor Cab has

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found that the life of minivans, based on mileage, is not as long as with regular sedans. To counter these costs, Luxor Cab has strived to maintain high customer demand for the regular taxicab business. They have managed to maintain customers and attract new demand by introducing the latest technology, such as an advanced Global Positioning System (GPS), digital dispatch, and reducing service charges. Many of Luxor's taxicabs provide point-of-pickup to point-of-delivery service, which the public transit system is not designed to provide.

Nevertheless, having a full-service accessible taxicab program comes with other benefits regardless of costs. Luxor officials believe that when they present proposals to public officials, the officials are willing to listen to them because Luxor is considered more credible due to their full-service accessible taxicab program. In total, there are 1,400 taxicabs in San Francisco and 100 (7.1%) of those are wheelchair accessible.

### **City of San Antonio**

There are a total of 824 taxis, 34 (4.1%) of which are wheelchair accessible in San Antonio. The demand for accessible taxicabs in San Antonio is about 600 to 800 trips per week. To meet this demand, San Antonio Yellow Cab has 25 wheelchair accessible vans out of its 560-taxicab fleet, or 4.5% of the fleet. Currently, Yellow Cab in San Antonio does not utilize any grants or subsidies for implementation but does charge a normal taxi fare. One problem that Yellow Cab San Antonio is experiencing is the challenge of attracting independent contractor taxicab drivers. To stimulate participation, Yellow Cab has provided incentives. For every 6 accessible trips provided on special family-oriented days and holidays, the driver will receive a free lease day. The conversion cost is about \$9000 per vehicle and includes a fleet discount. When accessible vans are utilized as regular taxis, the van can transport up to four passengers at a time and may often be called when a taxi with larger capacity is requested. Since Yellow Cab San Antonio is a full service taxi company and has a larger, dominant fleet compared to its competitors, they are able to provide accessible services and absorb the costs.

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### **Long Beach “Dial-a-Lift” Program**

One of the best examples of wheelchair accessible taxi service operates in Long Beach, California. Beginning in 1998, Long Beach Transit contracted with Long Beach Yellow Cab to provide paratransit services to eligible program participants using wheelchair-accessible

taxicabs, with backup from Long Beach Yellow Cab's non-accessible taxicab fleet. The wheelchair-accessible minivans used for this purpose are owned by Long Beach Transit and leased to Long Beach Yellow Cab. Long Beach Yellow Cab reimburses Long Beach Transit proportionately for its capital cost of each vehicle based on the percent of non-contract miles driven. Of the 175 taxicabs currently authorized in Long Beach, 15 (8.6%) are wheelchair accessible.

While Long Beach Transit pays Long Beach Yellow Cab considerably less than what it paid to the previous traditional paratransit contractor, it does pay more than the city approved taximeter rate. This difference helps for many different expenses, including the additional expense of maintaining the modified minivans, extra dispatch and training, accounting and administration, and higher levels of insurance required. More importantly, it ensures sufficiency of funds to subsidize drivers who provide service to wheelchair user passengers. As already recognized in this report, accessible trips are normally short and require more time for passenger loading and unloading, therefore, drivers need incentives to accept those trips.

As an incentive, Long Beach Yellow Cab provides a minimum fare guarantee of \$10 for each contracted trip to the drivers. In addition, for accessible trips that are not part of the contract, Long Beach Yellow Cab pays a \$15 subsidy above the taxi fare to the driver. This subsidy compensates the driver for the lost time, extra deadheading, and extra time and work associated with the accessible trips.

The quality of the taxicab company is a key aspect in the success of this program. As the only wheelchair accessible taxicab company licensed in Long Beach, Long Beach Yellow Cab is highly motivated to maintain the highest quality of taxicab service possible, stay ahead of the technology curve, and accept the community responsibility of helping to resolve mobility issues faced by the wheelchair user community.

The result of their program has been positive for both Long Beach Transit and for the

Long Beach community. During the first year of its contract with Long Beach Yellow Cab, Long Beach Transit saved over \$600,000 on a \$1,500,000 contract (40% reduction in annual operating costs) compared to the previous year. Subsequent years have shown similar cost savings. Long Beach Transit estimates an accumulated savings of over \$8,000,000 during the past 10 years. Service efficiency levels and customer quality are higher, with vehicles responding faster and passengers traveling more directly from pick-up to drop-off, avoiding shared circuitous routes necessary on larger vehicles. Most passengers now have essentially private curb-to-curb service. More importantly, as licensed taxicabs, the accessible vehicles are also available for paying non-program participants having similar mobility issues 24-hours/day, 7-days/week; and they are available for regular taxicab trips during other times. To summarize, the Long Beach Dial-A-Lift program's structure reduces capital and operating costs for the city agency, while providing adequate subsidies to cover the higher maintenance costs and driver incentives, resulting in excellent service response times and quality of service to the passenger.

### **Arlington, VA Case Study**

There are 765 taxicabs in Arlington County, VA and 29 (3.9%) of those are wheelchair accessible. Arlington County, VA is a 26 square mile jurisdiction with a resident population of 207,000 and a workday population of approximately 300,000, located in the core of the Washington, DC metropolitan region (total population 3.5M estimated). It is an urban-suburban community, heavily served by regional transit operated by the Washington Metropolitan Area Transit Authority (WMATA/Metro) with 11 Metrorail stations located within the County and extensive Metrobus service, as well as a County-operated (contracted) intra-county transit service (ART). In addition to WMATA-provided ADA complementary paratransit service (MetroAccess), the County operates its own paratransit system, STAR (So That All May Ride),



with a contracted call center (First Transit) and contracted service providers Red Top Cab and Diamond Transportation Service, a local for-profit paratransit provider. In 1994, with the advent of the ADA, Arlington officials were considering a commitment to the planned MetroAccess system for its local paratransit needs when they were approached by local providers Red Top Cab and Diamond Transportation Service with a proposal to use existing local providers in order to provide flexible, high-quality service, yet cost-effective, service. A plan was put together utilizing the local American Red Cross for call intake and trip

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distribution to Red Top and Diamond, and the resulting Arlington Access service began nearly one year before MetroAccess initiated service.

In 1996, Red Top voluntarily introduced wheelchair-accessible taxicab service in Arlington, utilizing special permits authorized by the county for that purpose. This was to allow the Arlington Access program to take advantage of the service flexibility and lower cost structure of taxicab service for wheelchair accessible service without any publicly-funded capital subsidies. All vehicles, including wheelchair-accessible taxicabs, are owned by the providers, so the program (now STAR) only purchases services.

A key component of the STAR program's successful use of accessible taxicabs has been the payment by the county of a \$5 per trip surcharge, or premium, on those trips requiring wheelchair-accessible taxicabs. A \$2 surcharge is paid by STAR for standard taxicab trips.

STAR also pays no-show fees of \$10 and \$7, respectively, for accessible and ambulatory dispatched trips. All of these surcharges go to the drivers as incentives for the additional training, time, and work associated with STAR trips. These surcharges have been instrumental in attracting and retaining drivers to participate in the STAR program and the wheelchair accessible service in general.

It should also be noted that Red Top leases its wheelchair-accessible taxis to drivers at a reduced rate compared to conventional taxis in its fleet, for which the company receives no

reimbursement. As a result of the success of the STAR program, WMATA's MetroAccess program, for which Red Top is also a contract provider, also agreed to pay per trip incentives to Red Top's drivers. This has provided an overall benefit to the public by promoting the growth of wheelchair-accessible taxicab service with Red Top's fleet now including 23 such vehicles.

In the STAR program, the county has historically maintained that its unit costs through the use of taxicab contractors are less than the cost to the county of transporting Arlington residents via the regional MetroAccess system other than for some interjurisdictional trips that are more cost-effectively served if directed to MetroAccess. Even as budgets have tightened, Red Top has worked with STAR to increase its efficient use of taxis by utilizing ride-sharing strategies that can commingle riders needing accessible service with ambulatory riders.

Key to the success of wheelchair accessible taxis has been the ability of the local jurisdiction to effectively partner with a full service taxicab provider that has been willing to meet community needs by investing capital and other resources on a voluntary basis. In return,

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the county has seen the advantages and benefited from its willingness to contract directly with a local taxicab provider. The county also helps to ensure the program's success by providing modest incentives to the taxicab company, in the form of special operating certificates, and to the taxi drivers by paying a reasonable trip premium. The result is not simply more cost-effective local paratransit programs, but more available transportation options for the county's residents and visitors, whether by contract, e.g., with senior centers, or simply by the availability of accessible taxi service to the general public.

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### **Taxi Accessibility in Europe**

Some of the public pressure for greater taxicab accessibility in the U.S. is coming from proponents who view Europe as being generally more accessible to the mobility impaired.

Ireland, with 8% accessible taxicabs, Norway with 10% accessible taxicabs, and the Netherlands at 20% accessible taxicabs, are certainly impressive. However, it can be said that accessibility to taxis, although a much-discussed topic, is not actually widely implemented throughout Europe. The United Kingdom has the highest percentage of accessible taxis in operation, with London at a current rate in excess of 50%, and a decision that all of their fabled Black Cabs will be accessible in the future. According to the April, 2007 issue of *Taxicab*, a publication of TLPA's Taxicab Division, the London taxi industry supported the regulatory change for three key reasons. First, taxicabs provided the majority of wheelchair accessible transportation service for London, which was heavily subsidized at (\$11.5 million US) through a Taxicard program. Second, taxicabs were given access to exclusive bus transit lanes, transit stops and priority access to all locations in the city. And, third a rate increase was given to the taxicab industry to help pay for the new wheelchair accessible vehicle. The two-pronged financial incentive combined with access to express traffic lanes and all pick up and drop off locations in London gave the industry a reason to accept regulatory change. (It should be noted however that London's Black Cabs would not meet ADA's requirements for wheelchair accessible taxicabs). Many other European countries still seem to neglect the problem, however.

A report published in 2007 by the International Road Transportation Union (IRU) and the European Conference of Ministers of Transport (ECMT), deals with the topic of "Improving Access to Taxis." A summary of the main topics and findings of the report follow. The *IRU* was founded in 1948 and is an organization responsible for maintaining the interests of the road transportation industry all over the world. The IRU's subgroup "Taxis and Hire-Cars with Driver" includes 28 member organizations from 25 countries (including the United States) and is responsible for the representation of the taxi industry within the IRU. This group deals with issues, such as accessibility and the creation of standards for Certificates of

Training for taxis with drivers. The *ECMT*, on the other hand, is an inter-governmental organization established in 1953, which comprises 44 European countries as full members, and

<sup>7</sup> Economic Aspects of Taxi Accessibility by International Road Transport Unit (IRU), 2001. 40

seven Associate member countries in other parts of the world, including the United States. The ECMT is a forum of Ministers with responsibilities in the field of inland transportation, which cooperate on policy.

Both organizations have been working in order to improve accessibility to transportation, as they view accessibility as a crucial factor for the provision of high-quality transportation service. But taxi accessibility remains an immense challenge, mostly because of the economic factors and structure of the trade associated with taxi service. Nevertheless, because of the potential importance of taxi service for this customer segment, due to the need for reliable door-to-door service, a focus on this part of the transportation sector is certainly warranted. In 2007, another study was conducted jointly by the IRU and the ECMT on the “Economic Aspects of Taxi Accessibility”. The summarized study at hand builds on this report conducted in 2001.

As mentioned before, taxis are of high value for handicapped people who can afford the service, due to the “individual” nature of the taxi service. Moreover, a study conducted in the 90s in England showed the only mode of transportation where wheelchair users made more journeys than non-disabled was taxi transportation. The ECMT already approved a resolution in 1994, which recommended that taxi manufacturers and designers should address the issue of accessibility in their taxis. But implementation of the resolution has been very slow. Up to date, only one European country has a percentage of more than 20% accessible taxis (and those 20% do not meet ADA standards), while a few countries have less than 10% and most have no accessible taxis. A factor stressing the importance of this issue of accessibility is the fact that the European population is aging and that to date there are an estimated 45 million wheelchair users

within the European Union.

### **Taxi Vehicle Design Recommendations**

The design recommendations presented in the report are to be regarded for the medium and longer-term, rather than as suggestions for immediate implementation. There are two recommended design levels. Level One: Wheelchair accessible taxis that are capable of carrying the majority of passengers with wheelchairs or other disabilities; and Level Two: Designed to make use by wheelchair users easier, but can only carry wheelchair users who can transfer to a taxi seat.

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The report recommends that in the future, taxi fleets should be composed of both types of taxis. The design recommendations presented in the report include suggested specifications for the door, steps, ramps, and seats, etc, and a comparison is given of current standards in the European countries with the ideal standards laid out in the report. The main finding is that in almost all cases, the actual dimensions fall short of the proposed ones. This emphasizes the point made throughout their report that either new taxi vehicles will have to be designed or a light commercial vehicle with a higher roof line will have to be converted. According to the report, the second recommendation is, in this case, the more viable one due to the high cost of new car development of approximately 148 million Euros.

### **Other Factors to Ensuring Taxi Accessibility**

Although the design of taxis is the main factor ensuring accessibility, other factors should not be forgotten, such as the encouragement of the provision of taxi accessibility, which can be established by regulation and/or financial incentive. The circumstances of the individual country will influence the appropriate option. Infrastructure design is also important, as accessible taxis need enough room to use their ramps at "taxi ranks" (the curb). Last but not least, taxi drivers need training in disability awareness in order to be able to assist people with disabilities, and to be able to use the necessary equipment.

### **Structure of the Trade**

In the European market, the taxi industry is dominated by owner/drivers and small proprietors. Large companies are the exception rather than the rule.

### **Structure of the European Taxi Industry**

#### **Country Structure (%)**

#### **Vehicles bought by (Independents/Entrepreneurs/ Companies)**

**% of  
new  
vehicles  
Indeps  
Small  
Small  
Companies  
Large  
Companies**

**Austria** 50 45 5 Independents 90

**Belgium** 50 30 20 80% indep. 20% companies 95

#### **Bosnia & Herzegovina**

x x x Independents n/a

42

#### **Czech Republic**

75 20 5 Independents Mainly

second

hand

**Denmark** n/a n/a Mainly

new

**Finland** 98 2 Independents 100

**France** 90 <10 <1 Independents Mainly

new

**Germany** 87 13 Entrepreneurs 90

**Greece** x x Independents 35

**Hungary** x x Mainly independent 65

**Ireland** x Independents 3.5

**Luxembourg** 90 10 Independents 95

**Netherlands** x x x Companies that employ drivers 95

**Norway** x Independents 85

**Poland** x Independents n/a

**Portugal** 85 15 Independents n/a

**Slovakia** 99 1 Independents 30

**Spain** x x Mainly independent 100

**Sweden** x x Independents Almost

100

**Ukraine** 91 9 Independents Mostly

secondhand

**UK** x x Mainly independent n/a

### **European Provision of Taxis for Disabled People**

The proportion of wheelchair accessible taxis in most European countries is considered

by most officials to be low to non-existent, the exception being in the Scandinavian countries,

the Netherlands and the UK, which have 10% or more wheelchair accessible taxis. However,

European studies are silent as to the actual percentage of wheelchair accessible trips provided by

these taxi systems. Also, there is typically no publicly provided alternative to the privately

provided taxi service.

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### **Wheelchair Accessible Taxis in National Taxi Parcs/Fleets**

#### **Country (% wheelchair accessible)**

Austria 1

Belgium 5

Bosnia & Herzegovina 0

Czech Republic 0

Denmark n/a

Finland 15

France n/a

Germany 1.3-1.4

Greece 0.05

Hungary n/a

Ireland 8.3

Luxembourg 0

Netherlands 20

Norway 10

Poland n/a

Portugal n/a

Slovakia 0.05

Spain 2.15

Sweden 10

Ukraine 0

UK 52

So far, there are relatively few examples of national regulations on the accessibility of

taxis. Finland's reform, containing quality requirements was set for 2006. In

Austria, a Disability

Discrimination Act was implemented on January 1, 2006, requiring that newly purchased goods

must comply with the Act and must be accessible for wheelchair users, but owner-drivers can be

exempted from this. In Ireland, new regulation was put in place in 2006, and includes training for drivers and better standards for accessibility. In the Netherlands, there are no legal regulations, but technical recommendations were published, while Norway, Portugal, and Spain each have technical specifications for vehicles designed for wheelchair accessibility. In Sweden, national technical regulations exist for accessible multi-purpose vehicles. Regional authorities in Belgium are responsible for taxi regulation, while in the UK the national government is responsible and proposed the introduction of the aforementioned regulation in 2003.

2 Parc - European terminology used to describe the total number of registered vehicles within a certain geographic region

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### **Proportion of Wheelchair-Accessible Taxis**

Another issue for consideration was whether the proposed standards for taxis should be applied to all taxis or just a select proportion. Many wheelchair users and people with other handicaps would naturally prefer entire taxi fleets to be accessible, but this is an unreasonable accommodation when observed demand is extremely limited. In general, it can be said the proposed proportion should be dependant to some extent on the structure of the taxi trade and the existing demand in that area. Other conditions influencing demand might be other modes of accessible transportation, tourism density, and the population age structure. Two general ways of encouragement exist for the provision of accessible taxis, regulation and/or financial incentive. A possible third alternative would be the requirement by local authorities that operators have to provide accessible vehicles as a condition of their general operating authority.

The main conclusion derived from the European report is that a mainstream taxi fleet should include both wheelchair accessible vehicles and other standard vehicles. Regulation of the taxi sector is the responsibility of local authorities, and a number of different policies have been tried in an effort to encourage the introduction of accessible vehicles, such as only issuing new licenses for accessible taxis, or contracts with local authorities to provide service for taking handicapped children to school, etc, but they have found only limited success.



The example provided in the UK, however, shows it is possible that all taxis in an area can be mandated to be accessible, but financial participation by the government is needed to make this possible, suggesting that such support should be granted to those operations that have accessible taxi fleets already.

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## **Conclusion**

This report has been a review of the U.S. taxi industry's history and response to individuals with disabilities. As shown, the taxi industry was for many years, the primary ondemand transportation mode for individuals traveling with the aid of a wheelchair and/or other physical and mental impairments. Drivers routinely assisted passengers out of their wheelchair and into the vehicle – stowing the wheelchair in the trunk. The advent of the Americans with Disabilities Act (ADA) in 1990, requiring mass transit systems to provide wheelchair accessible services, however, changed the local dynamic for serving this transportation market. Major new operators entered the wheelchair accessible transportation market – mass transit systems were required to augment their fixed route operations with wheelchair accessible vehicles and provide accessible service to assist individuals to reach these fixed route transit lines. Many transit systems developed these services in-house while a few contracted with private operators, both for-profit and not-for-profit, to provide this service. The major differences were that these vehicles were now fully wheelchair accessible and the fare charged to the passenger was no more than twice the bus fare. Much of the former taxi wheelchair market was now provided by the public sector through substantial subsidies to mass transit systems and/or their accessible service providers. Who would pay \$20.00 to take a cab when public transit service costs the user only \$2.00? Now, the private taxi market for wheelchair accessible trips is very small – estimated to be approximately 1/3 of 1% of all taxi or airport shuttle van trips taken. Regardless, some

communities are requiring that their local taxi operations offer accessible wheelchair service.

Some groups would prefer that all taxis be wheelchair accessible at some date in the future.

However, as the report details, there are numerous financial and practical difficulties associated with these requests or potential mandates. Most significant are the capital and operating costs

associated with accessible wheelchair taxi services. To acquire even used accessible taxicab

vehicles typically cost \$20,000 or more than the sedans commonly utilized as taxis in the U.S.

and Canada. Accessible vehicle operating costs are higher and their capacity for daily trips is

lower due to the time it requires to service the wheelchair accessible client and the short trip

nature of this market. Most important for the readers of this report is the simple software

application that we have included to show the estimated costs of requiring or adding a number of

wheelchair accessible vehicles to an existing fleet. Local taxi operators and officials can easily

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calculate the additional estimated costs and, as well, the subsidies that would be necessary for a

2%, 4%, or 100% accessible taxicab fleet. (Appendix A)

While these costs are real and potentially devastating to local taxi companies, there are

several positive case examples included in this report that demonstrate that wheelchair accessible

taxicab services by full service taxi companies, properly integrated with contracted or other

subsidized services, can substantially lower the cost of publicly provided mass transit and other

contracted wheelchair accessible services while providing a superior level of service at the same

time. Publicly provided door-to-door accessible transit services are typically provided in

cutaway buses using advance routing and group riding. Reservations must be made in advance

for both the trip to and from the destination, such as a doctor's office or hospital visit. Thus,

large amounts of travel and wait time for each user is common.

Utilizing privately accessible taxicabs for passengers capable of using curb-to-curb

wheelchair accessible vehicles – both those in wheelchairs and those incapable of walking to the nearest transit stop, will greatly lessen the financial burden upon public transit systems. In some communities, the cost difference between the publicly provided service and the full cost of the integrated accessible taxicab is \$20 per trip. The user benefits greatly by being able to call for a taxi just as any other individual would. The user would be picked up by a private taxi, rather than a large public transit vehicle. The community gains accessible taxicabs within their overall taxi service fleet that may be utilized for non-subsidized wheelchair accessible trips. As the market grows and if the publicly-provided or other subsidized trips are turned over to the privately provided taxi operations, we would expect the presence of wheelchair accessible taxicabs to become much more prevalent. The final point of the report is that the full potential of wheelchair accessible taxicab service in the United States is possible only through integration with full service taxi companies that possess modern computerized dispatch, tracking, and billing of trips taken by subsidized or publicly provided users. Such accountability, tracking, and billing is greatly enhanced with new, modern taxi dispatch and billing technology not previously available. Properly done (regulations supporting full service taxi companies and appropriate subsidies for accessible taxicab service), these integrated wheelchair accessible taxi services could become the norm in the relatively short period of time of a decade or so.

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Street, NW, Suite 200, TWashington, DC 20005, Phone: (202) 347-3066, Toll-free: (800) 659-

6428, Fax: (202) 737-7914, TDD: (202) 347-7385

## **Appendix A**

### **Accessible Taxicab Cost Calculator Software**

#### **Designed and Coded by**

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Center for Transportation Studies

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## CHAPTER-1: Preface

### Overview

Unfortunately, many proponents of wheelchair accessible taxicab services have little knowledge of the costs associated with providing those services. The Accessible Taxicab Cost Calculator software application is an aid for local regulatory officials, taxi companies, and taxicab drivers in their decision of whether or not to implement accessible taxicab services based on the costs. It is a very distinctive application that will help taxicab companies find quick, accurate, and reliable cost comparisons between their current costs and costs for implementing fully accessible taxicab services.

### Why use this software application?

The uniqueness of this application lies in its implementation of an accurate model to incorporate the depreciation, insurance, and operating costs for the taxicab companies. It provides a flexible tool for obtaining fast results for cost calculations. Users can either fill in the series of costs or use the default costs already provided. Using this application, officials of a taxicab company can acquire accurate and reliable cost information to compare and contrast the costs of having a percentage of their fleet as accessible taxis with the costs of a traditional taxi fleet. Besides being reliable and efficient, this application is easy to use and user-friendly. It is simple to understand and does not require any training other than reading the user manual for the first-time user.

### Information you need

To find the total cost of integrated accessible taxi fleets, the application asks the user to

enter a series of costs. These costs include the purchase price of a vehicle, insurance cost, and operating costs. Additionally, users input the expected procurement costs of selected accessible

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vehicles (existing and planned), probable insurance costs, and expected operating cost. The default values are the result of the research of the Center for Transportation research team, and function as general estimates by the user. To get an idea of what it would cost to obtain and operate an accessible taxicab fleet, the user will determine the total fleet size of vehicles and the percent of the total fleet that should be accessible vehicles. Default values for Canada were calculated by converting the U.S. dollar values to Canadian dollars using the nominal exchange rates published on the Bank of Canada website for 23 Oct 2009 as 1 USD (closing) = 1.0519 CAD.<sup>9</sup> The default operating cost value is an

estimation based on the Automobile Allowance Rate published by the Canada Revenue

Agency.<sup>10</sup> Insurance rates originate from a report issued by the City of Toronto Municipal

Licensing and Standards Division.<sup>11</sup>

<sup>9</sup> <http://www1.bank-banque-canada.ca/en/rates/exchange.html>

<sup>10</sup> <http://www.cra-arc.gc.ca/tx/bsnss/tpcs/pyrll/bnfts/tmbll/lwnc/rts-eng.html>

<sup>11</sup> <http://www.toronto.ca/legdocs/mmis/2009/ls/bgrd/backgroundfile-23256.pdf>

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## **CHAPTER-2: Cost Clarification for Taximeter Application**

### **Capital cost**

The purpose of the capital cost entry is to determine the depreciation expense incurred each year.

#### **1. Used sedan capital cost**

This cost represents the current cost to purchase a used sedan and convert it to a taxi. The cost includes painting and equipment such as the two-way communications (radio and/or computer mobile data terminal), meter, and items necessary to convert the vehicle to a taxicab.

#### **2. New accessible taxi capital cost**

This cost is the current rate for purchasing a new van already equipped with a rear or side-entry system.

#### **3. Used van capital cost**

This cost represents an estimate of the cost to purchase a used van that is or will be

equipped with a conversion package. The conversion costs may be included in the purchase price of a used van. In the event retrofitting takes place post purchase, enter the costs separately to expense them in the first year (see Retrofit Cost below).

#### **4. Retrofit cost**

In the event that the acquisition of a used van requires subsequent retrofitting to make it an accessible van, this entry allows the user to enter these costs separately if the user would like these costs expensed in the first year. If the used van were already an accessible van prior to purchase, these costs would be included in the purchase price of the used van.

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#### **Insurance cost**

The insurance cost for all three types of vehicles will vary greatly due to the geographic area. In addition, the accessible vehicles will carry a higher premium due to the specialized equipment installed.

#### **Operating cost**

The expectation is that the operating cost will vary between vehicle types. This is primarily due to the higher fuel consumption of vans as compared to sedans. In addition, new vans should get better fuel efficiency over older used vans. Other than fuel consumption, operating cost includes general maintenance and upkeep like oil, tires, and parts for the vehicle as needed.

#### **Depreciation cost (U.S.) / Capital Cost Allowance (Canada)**

This cost category includes depreciation expenses, which are expenses incurred as the result of a decrease in value of company owned revenue vehicles due to age, wear, or adverse market conditions. U.S. companies have the option of selecting Straight Line depreciation, Double Declining Balance depreciation or Sum-of-Years depreciation method. The Straight Line method depreciates the capital expense equally spread across the useful life. The Double Declining Balance and Sum-of-Years methods both depreciate an asset's value at an accelerated rate incurring the greatest expense in the first year of operation of the asset with each subsequent year having a lesser amount expensed.

The Capital Cost Allowance (CCA) is used when the country of operation selected is Canada. This method is calculated using the assumption that the asset is expensed using the CCA method described in Publication T4002(E) Rev. 08. Only 50% of the allowable CCA is expensed in the first year. The allowable CCA is determined as 40% of the Undepreciated Capital Cost.

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## **CHAPTER-3: User Directions**

### **Step 1: Fill in the costs**

The first step is to fill in the cost information. The user fills in the cost information by

clicking on the cell and typing in the figure. The figures already present in the fields are the

figures researched and updated by the CTS team. The user can use the data that already exists or

fill in new data that better represents his/her firm's cost structure.

The user needs to fill in three sets of information: one for the sedan, one for accessible

taxis using new vehicles, and one for accessible taxis using used vans. If the user does not have

cost information for accessible taxi fleets, he/she can estimate the costs or use the estimated

values. Each set of information must be input into the appropriate field.

(Hover your mouse cursor over the "?" for tips for that row)

### **Step 2: Average annual mileage / kilometers**

Enter the average mileage/kilometers a single taxi travels in a given year. This number

determines the annual operating cost for your fleet.

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### **Step 3: Expected useful life (US only)**

The expected useful life calculates the yearly depreciation expense over this period. The

values for the used vehicles are variable as long as the number of years does not exceed seven

years. The assumption is that no taxi is productive after seven years if it makes it that long.

However, the application does calculate the costs for seven years so that after fully depreciated

only the operating costs will remain. These costs can be seen in the yearly breakdown report.

### **Step 3: CCA rate (Canada only)**

This value should only need to be changed if Canada modifies the CCA rate for taxis.

### **Step 4: Fleet size and percent of accessible vehicles**



Enter the fleet size and the percent of fleet size to use as accessible vehicles. You may use your existing fleet size to determine the difference in cost between your current operations and the cost you would have if your had accessible vehicles in your existing fleet.

#### **Step 5: Depreciation method (US only)**

You are provided with the capability to select the type of depreciation method you wish

to use. The three options available for U.S. companies are 1) Straight Line, 2) Double Declining, and 3) Sum of Years. For Canadian companies, the CCA method is used. The current rate of 40% is the default. In the event of future rate changes for taxicabs, this value may be changed.

#### **Step 6: Getting the results**

The next two paragraphs describe each of the two forms that you may choose to display on-screen. While each of these gives you the opportunity to print the results, you may also use the **Print Report** button on the main form. When you click **Print Report** button, the two reports shown below are produced in addition to an additional page that prints the values used in the calculations.

\*\*\* Some printers do not print the report pages correctly \*\*\*

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There are two types of results that can be obtained. First, when you click the **Display Cost**

**Summary** button, it displays the accumulated costs over the maximum of depreciation years for three different scenarios: using only sedans with no accessible vehicles, combined sedans with new accessible vehicles, and combined sedans with used accessible vehicles. The bottom shows the total additional subsidy required to implement accessible taxis for both new and used scenarios in addition to the average cost per year.

After clicking the **Display Cost Summary** button, the **View Yearly Breakdown** button

becomes available. Clicking this button displays four different tables for each group of vehicles (see next page). Each table displays the depreciation and total cost for each year. The first

vehicle group is 100% sedans. The other three groups show the vehicles needed to implement accessible taxis. One group is the costs for new accessible taxis. Another group is for the

alternative of purchasing used vans that will be converted to accessible taxis. The last group shows the costs for the sedans necessary to complete the total fleet size in addition to the accessible taxis.

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## **CHAPTER-4: Understanding the Results**

### **Total cost**

This data represents the total estimated cost for all vehicles of this type. The total cost

includes the operating cost, the insurance cost, and the depreciation cost. The operating cost is

calculated as the cost per mile multiplied by the total average miles in a year multiplied by the

number of vehicles for each of the seven years. The insurance cost is calculated by multiplying

the number of vehicles by the insurance cost for each of the seven years.

The user can compare the total cost of a sedan only fleet with the total costs of an

accessible taxi fleet. The difference of these costs will give the user a realistic view of how much

more it will cost to operate a partial or fully accessible taxi fleet.