

THE CITY OF NEW YORK  
INDEPENDENT BUDGET OFFICE

110 WILLIAM STREET, 14<sup>TH</sup> FLOOR  
NEW YORK, NEW YORK 10038  
(212) 442-0632 • FAX (212) 442-0350 • EMAIL: [ibo@ibo.nyc.ny.us](mailto:ibo@ibo.nyc.ny.us)  
<http://www.ibo.nyc.ny.us>

June 14, 2007

Jean Ryan  
c/o Disabled In Action of Metropolitan New York  
P.O. Box 30954 Port Authority Station  
New York, NY 10011

Dear Ms. Ryan:

Attached please find the analysis you requested on behalf of Disabled In Action on the potential for cost savings in paratransit service through the use of a taxi voucher system.

Contracts for paratransit service are one of the fastest growing components of spending by New York City Transit, projected to grow 55 percent between this year and 2010, from \$230 million to \$357 million.

We find that, under certain assumptions and based on the data made available to us by the Access-A-Ride program (New York City Transit's paratransit service), the use of a voucher system in 2006 could have reduced overall paratransit usage by about 14 percent in total, with net savings of approximately \$13 million—equivalent to about 7 percent of total Access-A-Ride spending of \$190 million that year.

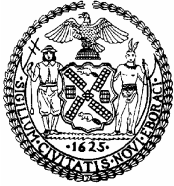
In the course of preparing this analysis, NYC Transit's Paratransit Division staff were generous with their time and data. In our discussions with them, they expressed their interest in pursuing a voucher system as a complement to the existing paratransit service, but took note of several operational obstacles they have encountered, as discussed in more detail in the attachment, which they told us they are attempting to address.

I hope you will find this information helpful. If you have further questions on this or other topics, please do not hesitate to contact us. The IBO staff contact is Alan Treffeisen, who may be reached at (212) 442-8614, or [alant@ibo.nyc.ny.us](mailto:alant@ibo.nyc.ny.us).

Sincerely,

C. Preston Niblack  
Deputy Director

Attachment



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**Using Taxi Vouchers to Lower the Cost of Paratransit Service**  
**June 2007**

**INTRODUCTION**

The federal Americans with Disabilities Act (ADA) of 1990 mandates that transit agencies provide “comparable” paratransit service to individuals who are unable to use regular public transportation. Access-A-Ride is New York City’s paratransit program. It provides round-the-clock service to the entire city, using a combination of sedans, vans, and minibuses. The program was originally administered by the city’s Department of Transportation, but in 1993 was taken over by MTA New York City Transit (NYC Transit). NYC Transit contracts with private transportation companies to deliver the service.

The main component of Access-A-Ride expenses is the cost of service contracts with private providers. These costs more than doubled between 2000 and 2006, from \$69.1 million to \$165.5 million, and are projected to reach \$356.7 million by 2010 (see IBO’s [\*Access-A-Ride: With More Riders, Costs Are Rising Sharply\*](#), October 2007). Based on current institutional arrangements, by 2010 almost two-thirds of the contract cost will be borne by NYC Transit, with the remainder coming from a city contribution, a portion of dedicated tax revenue, and passenger fares. Whereas passenger fares cover around half of the operating cost of NYC Transit subway and bus service, for paratransit the figure is less than 4 percent. In 2005 the average operating cost per boarding (scheduled trip) on Access-A-Ride was \$55.72, while the average cost per passenger (a registered user, plus any aides or guests who accompany him or her) was \$40.70.

The MTA’s forecast of contract costs assumes that these will increase at a rate equal to ridership growth, plus overall inflation. In other words, after adjusting for the increase in the overall cost of living, the projected growth in the paratransit budget is due primarily to the increased number of passengers, not the cost per passenger. NYC Transit could potentially realize savings by diverting paratransit ridership to less expensive modes. This study analyzes the possible savings from shifting some paratransit ridership to subsidized taxis, using a voucher system. In addition to the financial savings, paratransit customers who switch may also benefit from faster, more comfortable service. The voucher system would operate as a complement to, not a substitute for, conventional paratransit service.<sup>1</sup>

**BACKGROUND: TAXIS AND PARATRANSIT SERVICE**

Taxis have traditionally played an important role in transporting individuals who cannot use regular public transit. A number of large cities in the United States use conventional taxi service as a complement to their regular paratransit service. For example, in Chicago and Houston a registered paratransit user may use discounted vouchers to pay for taxi trips, up to a maximum

amount. Other cities, including Boston, Los Angeles, and Philadelphia, offer subsidized taxi service that is not directly linked to paratransit. All three of these cities offer the service to residents 65 and over, while Boston and Los Angeles also make it available to disabled residents under 65.

In New York, the relatively high availability of taxi service makes them a particularly attractive mode of transportation. While at present there are very few wheelchair-accessible taxis, the Taxi and Limousine Commission and the City Council are publicly committed to making accessible vehicles more available. In any case, around 80 percent of Access-A-Ride users do not require a wheelchair.<sup>2</sup>

***The Current Role of Taxis in New York City's Paratransit Program.*** The total number of paratransit trips made by taxi—black cars, yellow cabs, and livery vehicles—has grown rapidly since new programs were introduced at the end of 2002. In 2006 taxis represented around 7 percent of all trips on paratransit, up from 2.7 percent in 2003.

The Access-A-Ride program currently uses taxis on a limited basis for several different types of trips. Two forms of payment are used: a *voucher system*, or a *reimbursement option*:

*Voucher System.* NYC Transit contracts with certain black car and livery cab companies to deliver voucher trips with fares that have been pre-negotiated under their contracts. Under this option, the customer pays the regular paratransit fare of \$2, and signs a voucher for the balance of the fare. The transportation provider then redeems the voucher with NYC Transit. There are two types of paratransit taxi trip for which *only* vouchers are used: trips to Access-A-Ride Assessment Centers, and for certain eligible trips to Veterans hospitals.

- *Trips to Assessment Centers.* Persons who wish to establish or renew their eligibility for paratransit are required to undergo an interview and possible functional assessment by trained personnel at Assessment Centers. There are two centers in Brooklyn, and one in each of the other boroughs. Customers who have appointments at Assessment Centers are offered vouchers. NYC Transit contracts with “black car” companies (car services that use luxury vehicles) to transport ambulatory customers to and from the centers. Non-ambulatory customers are transported in conventional paratransit vehicles.
- *Veterans Affairs (VA) Hospitals.* Access-A-Ride provides vouchers to Brooklyn and Bronx residents who make at least three regularly scheduled trips per week to VA Hospitals in their borough, for dialysis or physical therapy. This program also uses black car companies.

*Reimbursement Option.* Certain other types of paratransit taxi trip may involve either vouchers or reimbursement, depending on service availability and the preferences of the customer. The reimbursement option allows the paratransit customer to use a yellow cab or the livery company of his or her choice. The customer pays the full taxi fare, plus any tip, up front. NYC Transit then reimburses the user (with tip capped at 15 percent) for the total cost minus \$2. The following are situations under which an ambulatory paratransit customer may be given the option of making his or her trip by taxi:

- *Vehicle No-Shows.* Access-A-Ride authorizes taxi trips to individuals whose paratransit vehicle has not arrived within 45 minutes of the scheduled time.
- *Same-Day Scheduling Problems.* When there are last-minute problems with a scheduled trip, the customer is sometimes given the option of using a taxi.
- *Call Backs.* The automated scheduling system used by Access-A-Ride occasionally has difficulty scheduling a trip. Rather than override the system parameters, scheduling personnel may offer the customer the option of making the trip by taxi.
- *Advance Reservations.* NYC Transit offers taxi trips (voucher or reimbursement) to a small number of advance reservation trips.

### **THE POTENTIAL FOR INCREASED TAXI USE**

*Characteristics of Current Non-Taxi Ridership.* The Paratransit Division of NYC Transit provided IBO with a data set containing information on all non-taxi Access-A-Ride trips taken between May 1 and November 13, 2006. For each trip, the data set contains information including an anonymous paratransit customer ID number, the wheelchair status of the customer, the date and time of the pickup, and geographic coordinates of the pickup and drop-off points.

The data cover slightly over half of the year 2006. They do not include the months of winter, when the weather might be expected to have a significant influence on ridership.<sup>3</sup> However, an examination of data for the years 2003–2005 shows that average monthly ridership from January through December is only about three percent below average monthly ridership from May through October. Because the difference is so small, we will consider the May 1–November 13 data as representative of 2006 as a whole.

*Trip Basics* At the end of 2006 there were 97,679 registered Access-A-Ride customers, up from 91,953 in 2005. The number of registered customers who actually used the service between May 1 and November 13, 2006 was 61,327. In other words, over one-third of the client base took no trips during this time period. (This group may include some individuals whose registration is still current, but who no longer live in the city.) Of the clients who took trips, 12,128 (19.8 percent) were wheelchair users, and 49,199 (80.2 percent) were ambulatory.

The total number of non-taxi trips taken on Access-A-Ride during the period under consideration was 1,987,027. Of this total, 21.1 percent were made by wheelchair users, and 78.9 percent by ambulatory clients. On average, utilization was slightly higher among wheelchair users (35 trips each) than among ambulatory customers (32 trips each).

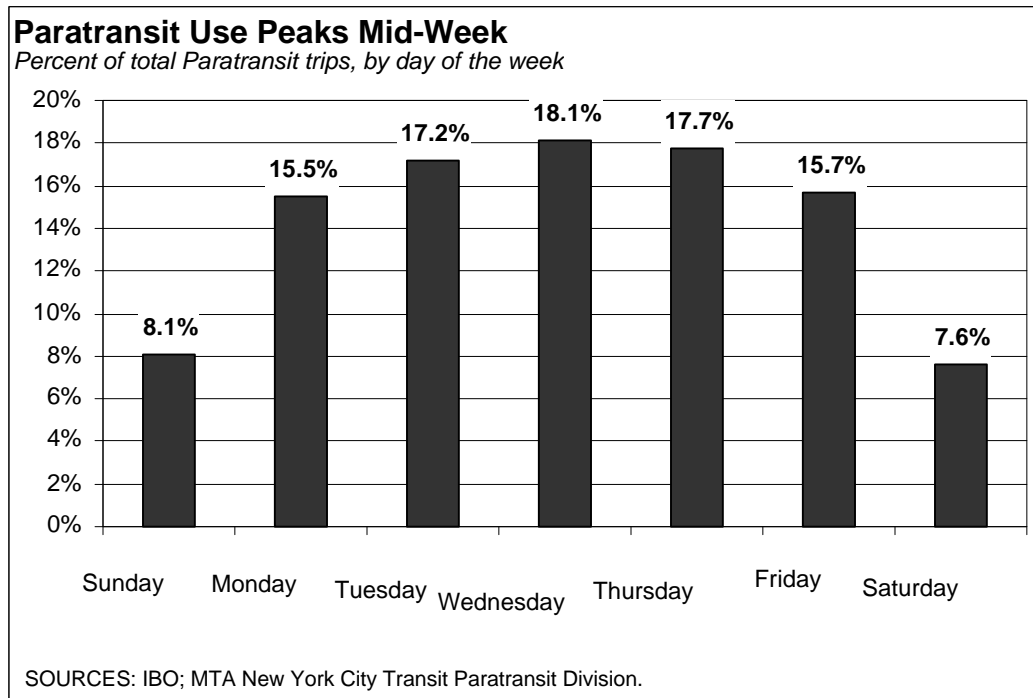
There is considerable variation in paratransit usage among registered clients. In addition to the one-third who made no trips, another third took 12 or fewer one-way trips. This is the equivalent of less than one round-trip per month over the period for which we have data. At the other extreme, 245 registered customers made more than 276 one-way trips, the equivalent of one roundtrip each non-holiday weekday. Of the registered users who took trips, the top ten percent

were responsible for 998,203 trips, just over half of the total. The bottom 10 percent, in contrast, took only 8,723 trips, less than 0.5 percent of the total. The share of wheelchair users among frequent riders was slightly higher than the share among occasional riders. While 21.4 percent of riders who made 89 trips or more (the top 10 percent in terms of usage) were wheelchair users, among riders who took only one or two trips the share of wheelchair users was 18.1 percent.

*Length of Trips.* IBO has calculated the length of each Access-A-Ride trip based on the coordinates of the pickup and drop-off points. Our calculation assumes travel along a conventional street grid.

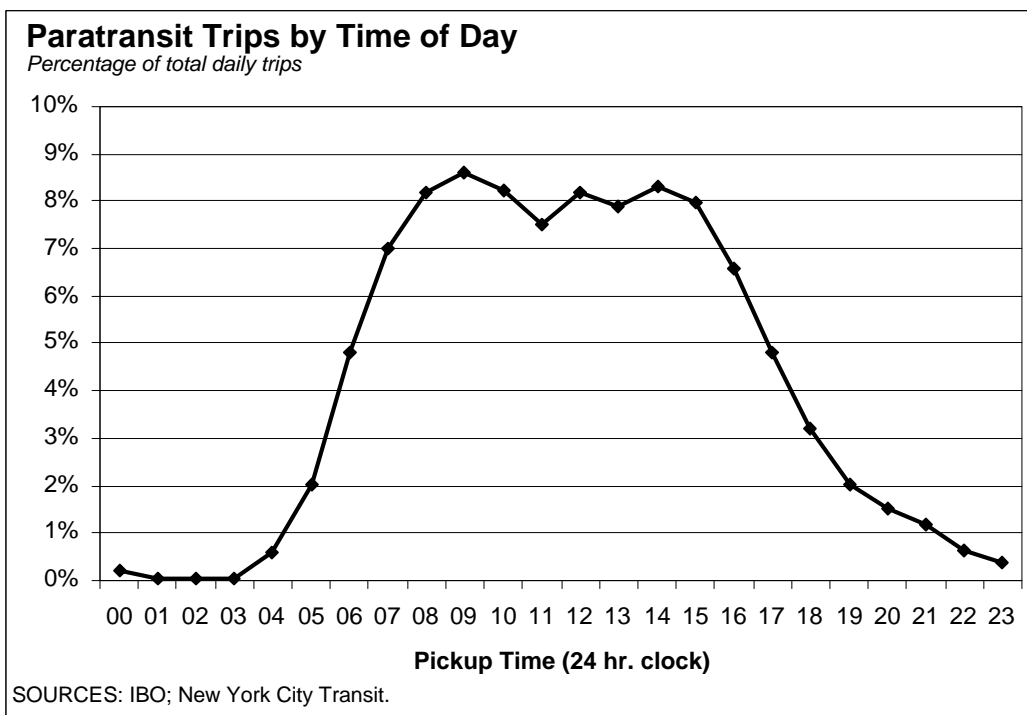
The average length for all paratransit trips was approximately 2.1 miles, with ninety percent between 0.25 and 5.3 miles. On average, wheelchair users made trips that were slightly shorter than those made by non-wheelchair users (1.96 miles vs. 2.15 miles).

*Variation by Day of Week and Time of Day.* Access-A-Ride travel varies significantly by day of week and time of day. Except when a holiday falls on a weekday, ridership rises through the beginning of the week, reaches a peak on Wednesday, and then declines through the end of the week. Each day's share of ridership for the period May 1-November 13, 2006 is shown below.



Conventional public transit has well-defined morning and afternoon peaks, corresponding roughly to a morning rush between 7 a.m. and 9 a.m. and evening rush between 4 p.m. and 7 p.m. The volume of Access-A-Ride travel over the course of a day follows a somewhat different pattern. The volume of paratransit ridership in New York City, as measured by the time at which the customer is picked up, begins to increase most sharply between 5 a.m. and 7 a.m. and peaks at around 1,000 trips between 9 a.m. and 10 a.m. on weekdays. Unlike conventional transit, however, the number of pickups remains at roughly this level until 4 p.m. After 4 p.m. there is a

sharp dropoff in ridership, and travel remains low until the 6 a.m. to 7 a.m. slot on the following day. There is no major difference in the time distribution between wheelchair users and non-wheelchair users.



*Trip Geography.* The ridership data provided to IBO do not identify the borough of origin or destination. However, using the coordinates of the pickup and dropoff locations, we have divided the city into five zones. These zones correspond roughly to the five boroughs, except that the northern part of Manhattan is included with the Bronx.

Around 57 percent of trips in the data set had their origin and destination in the same zone. An additional 29 percent involved travel between Manhattan (excluding the northern tip) and another zone. Together, these two categories represented six out of every seven trips. On average, trips within Manhattan (again, excluding the northern tip) were less than one mile in length. At the other extreme, trips between Queens and Staten Island averaged more than seven miles in length.<sup>4</sup>

*Estimated Savings From Shifting Trips To Taxis.* Some paratransit trips can be more easily shifted to taxis than others, and some shifted trips provide greater savings than others. IBO does not have sufficient data on the cost structure of Access-A-Ride to make precise estimates of the savings available from using taxi vouchers. However, using a series of conservative assumptions, we demonstrate that the potential for savings clearly exists.

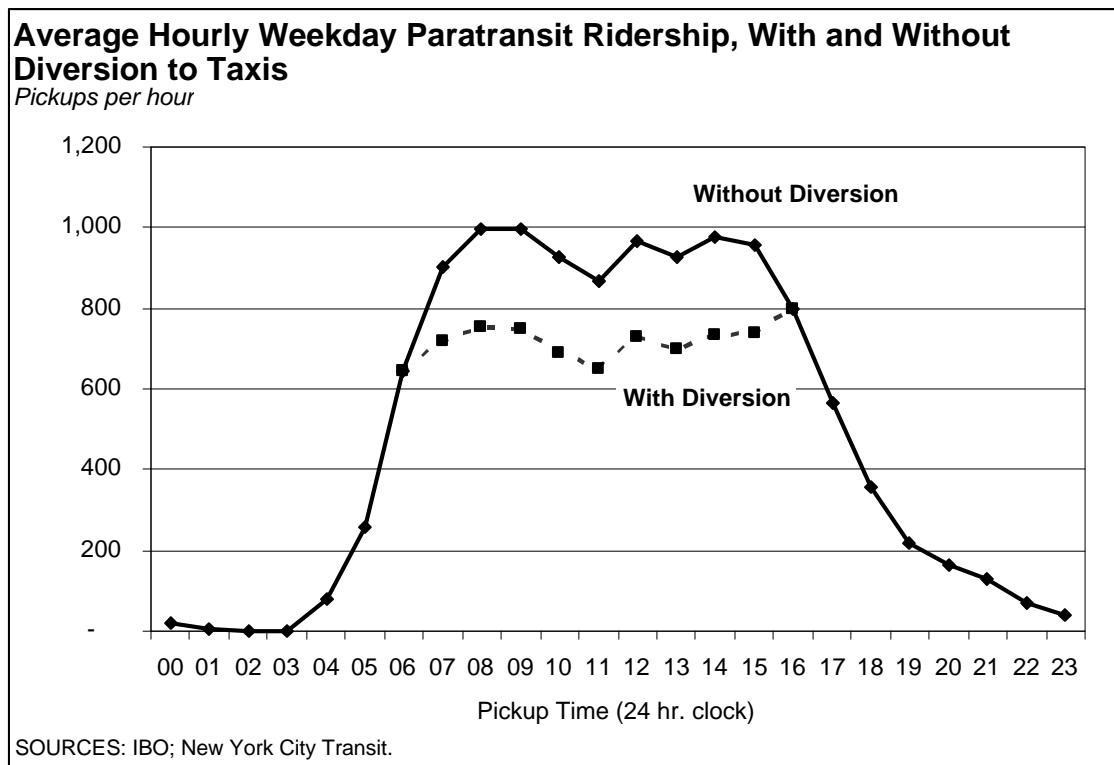
The Access-A-Ride program, like many transportation services, faces a peak-load problem. NYC Transit is not permitted to use pricing or rationing to spread out the demand, but rather must build in extra capacity to meet peak requirements. In contrast with conventional transit, however, there are not well-defined morning and afternoon peaks. Rather, there is one peak which lasts

approximately nine hours, from 7 a.m. to 4 p.m. These are the hours during which a reduction in paratransit use would likely have the greatest impact on costs, since fewer riders in the peak would allow a reduction in the overall capacity of the system.<sup>5</sup> This paratransit peak overlaps with a period of high taxi demand (7 a.m. to 9 a.m.). However, the actual number of paratransit passengers assumed to switch to taxis is quite small compared to the total size of the yellow and livery cab fleets.

Until wheelchair-accessible taxis become more available, any significant shift from Access-A-Ride to taxis will be restricted to non-wheelchair users. IBO has estimated the potential for shifting Access-A-Ride customers to taxis by focusing exclusively on the following two groups:

- Passengers traveling within Manhattan, excluding the northern tip, between 7 am and 4 pm on weekdays. Those customers who switch should be able to hail a yellow cab with relative ease.
- Passengers outside the Manhattan core, traveling between 7 am and 4 pm, and making trips of 2.5 miles or less. These customers would generally not have easy access to yellow cabs, but could pre-arrange trips with car services (“livery” cabs).

Average weekday paratransit ridership between May and November 2006 was 11,872. Of this total, 4,131 (411 in Manhattan, and 3,720 in the other boroughs) were in the two categories that IBO has assumed could easily shift to taxis. Our assumption is that half of these customers would in fact have switched to taxis had a voucher system been available. The result would have been a 17 percent decline in weekday Access-A-Ride usage, from 11,872 to 9,807. Total paratransit ridership (weekdays plus weekends) would have declined by 14 percent.



Extrapolating the numbers from May-November 2006 to the entire year, the taxi voucher program would have replaced 509,216 paratransit trips.

*Savings.* NYC Transit divides contract costs into fixed costs, variable costs, and maintenance. Variable and maintenance costs make up around three-fourths of contract costs. In order to obtain an order of magnitude estimate for the cost savings from taxi vouchers, IBO has assumed that the 14 percent decline in ridership would translate into a 14 percent decline in variable and maintenance costs. This is equivalent to reduction of 10 percent in overall contract costs—around \$17 million— based on actual 2006 costs of \$165.5 million.

Under the taxi voucher system, registered paratransit users would pay a \$2 fare, plus any cost over and above \$10. The \$10 figure is chosen because it is the closest round dollar amount to the \$9.61 average Yellow Cab fare for “short” trips in New York City. (Schaller, 2007).

Under the somewhat extreme assumption that each taxi voucher would require a subsidy of \$8 (the maximum level allowed under our assumptions), the annual cost of subsidies would be around \$4 million ( $\$8 \times 0.5$  million trips). The net savings from a taxi voucher program, not taking into account administrative expenses, would thus have been \$13 million in 2006 (\$17 million in contract cost savings, offset by \$4 million for voucher costs).

**Obstacles to Using Taxis for Paratransit.** There are a number of obstacles to increasing the use of taxis in paratransit. First, as noted earlier, the low number of wheelchair-accessible taxis severely limits options for the 20 percent of paratransit users who are not ambulatory. While the



city is committed to increasing the number of wheelchair-accessible taxis, significant progress in this area is at least several years away.

Second, the experience of Access-A-Ride with contracted taxi service has shown that black car and livery cab companies lose interest in providing paratransit trips when more lucrative markets, such as tourist and business travel, are available. The current strong economy may limit the willingness of companies to enter into contractual agreements to provide paratransit trips. When contracts do exist, enforcement mechanisms are needed to ensure that the companies do not renege on their service commitment.

Finally, there are concerns over the fraudulent use of taxi vouchers and reimbursement claims. Access-A-Ride has found a significant number of fraudulent claims in its existing reimbursement program.

## CONCLUSION

This paper has not discussed the specifics of a taxi voucher system for New York City. However, the appendix contains a brief description of how taxis are used to complement paratransit service in several US cities, and presumably New York would borrow at least some elements from what other cities have done.

There is no reliable way to know *a priori* how paratransit customers and taxi companies would respond to a taxi voucher system. A small-scale, trial program would probably be the best way to gauge the potential for vouchers.

Compared with other metropolitan areas in the United States, New York City has a lower rate of automobile ownership and a greater availability of taxis. It is likely that many ambulatory paratransit customers are already using taxis on a regular basis. It would be rational for these customers to substitute subsidized taxi trips, with an out-of-pocket cost equal or similar to conventional paratransit, for the unsubsidized trips that they are already making. In an extreme case, the net result could be an *increase* in the overall cost of paratransit. This problem can be avoided by either price or quantity rationing. Price rationing involves raising the price of a subsidized taxi ride (reducing the value of the voucher), while quantity rationing involves limiting the number of subsidized taxi trips that a registered paratransit customer is allowed to take in a given period of time. As explained at the beginning of this paper, the taxi voucher system would be a complement to Access-A-Ride, not a substitute, and as such would not be subject to the fare and service requirements that the Federal Transit Administration (FTA) imposes on paratransit.

## **APPENDIX:**

### **THE USE OF TAXIS IN CONJUNCTION WITH PARATRANSIT IN OTHER US CITIES.**

**Chicago.** Paratransit service in Chicago was formerly provided by the Chicago Transit Authority (CTA). However, in July 2006, paratransit service in the city was taken over by Pace, the provider of bus service in suburban counties. Chicago provides three types of paratransit service: conventional paratransit (“Special Services”), a taxi-based subscription service called Mobility Direct, and the Taxi Access Program (TAP), which is a system of taxi vouchers. Special Services has a cash fare of \$1.75 (confirm), which is equivalent to the fare on CTA buses and subways. There is also a monthly pass available for \$75. Trips with Mobility Direct cost \$2.25, and a TAP voucher costs \$5.

The average cost per passenger of the Mobility Direct program was around \$13 in 2005, about half the cost of Special Services trips. The TAP vouchers can be used to pay taxi fares of up to \$13.50, which implies a per trip subsidy of up to  $\$13.50 - \$5.00 = \$8.50$ . While most cabs in Chicago are not wheelchair-accessible, TAP users who require an accessible vehicle may call a central 800 number. The dispatcher then contacts individual companies in order to find an accessible taxi.

Chicago in 2005 had half as many paratransit riders as New York (2.31 million vs. 4.66 million), with a population slightly less than half as large (3.7 million vs. 8.0 million). Around 634,000 paratransit riders (27 percent of the total) used taxi vouchers.

**Houston.** Houston has a conventional paratransit service known as Metrolift, which uses vans, sedans, and minivans. The cash fare is \$1.15, slightly above the cash fare of \$1 for regular transit. The Metrolift Subsidy program allows registered paratransit users to travel by taxi, including late night and early morning hours when Metrolift is not in service. The customer pays the first dollar of the fare, plus any cost over \$9. Houston does not sell its vouchers, but instead distributes them to taxi drivers. The driver fills out the form, the rider certifies that the information is correct, and the city reimburses the taxi company.

**Boston.** Boston’s paratransit program, known as The Ride, is administered by the Massachusetts Bay Transit Authority (MBTA). The paratransit cash fare is \$2.00, compared with a cash fare of \$2.00 on subway lines and \$1.50 on local buses.

The Taxi Discount Coupon program is available to individuals 65 and over, and persons with disabilities. Participants in the program may purchase \$10 worth of taxi coupons for \$5. This program is not directly part of paratransit.

**Los Angeles.** The ADA paratransit service in Los Angeles is known as Access Paratransit. The daytime distance-based fare on paratransit minibuses and minivans is \$1.80 for trips under 20 miles, and \$2.70 for trips 20 miles in length or greater. There is a \$1.50 discount fare for nighttime trips. The cash fare on local buses in Los Angeles is \$1.25.

Los Angeles has an additional program called Cityride, for persons who are 65 and over or disabled. Enrollment in this program allows the individual to buy \$78 worth of scrip every three months, at a price of \$15 for regular enrollees, or \$6 for low-income enrollees. The scrip can

then be used to purchase reduced-fare transit passes, to pay for Cityride Dial-a-Ride service (similar to ADA paratransit), or to pay up to \$12 of a taxi fare.

## NOTES

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<sup>1</sup> For this reason, the voucher system would not be subject to the fare and service requirements that the FTA places on regular paratransit. In general, the FTA requires that paratransit service be provided within three-fourths of a mile of existing bus routes and rail stations, during the same hours and days as conventional transit. In addition, the fare may not exceed twice the cash fare on regular transit.

<sup>2</sup>NYCT, personal communication. An analysis of all Access-A-Ride trips made between May and November 2006 reveals that 79 percent were made by users who were ambulatory, and 21 percent by wheelchair users. Of all registered users who made at least one trip, 80 percent were ambulatory and 20 percent wheelchair users. A wheelchair-accessible taxi is one that allows passengers to board and ride without getting out of the chair. Some wheelchair users are in fact able to enter a vehicle without their chair, and are thus able to use non-accessible taxis. A bill recently introduced to the New York City Council (Intro 378 of 2006) would require that by 2012, all new taxis placed in service be accessible. The TLC has committed to seeking legislative approval for the sale of medallions specifically for accessible yellow cabs. In addition, the TLC requires for-hire vehicle (“car service”) base stations to provide accessible vehicles on request, either directly or through another car service. This initiative, codified in For-Hire Vehicle Rule 6-07(f), has not worked as well as the TLC had hoped.

<sup>3</sup> While harsh winter weather may lead customers to forego travel altogether, the difficulty of getting to and from bus stops and subway stations in conditions of ice, snow, and cold may cause some passengers to shift from conventional transit to Access-A-Ride.

<sup>4</sup>IBO’s calculations indicate that the small number of trips made between the Bronx/Northern Manhattan and Staten Island averaged almost 9 miles in length. The actual distance was probably greater, as this trip involves crossing the Verrazano Bridge.

<sup>5</sup>Shifting all late night/early morning riders to taxis would reduce costs, as well as add taxi riders at a time of day when there are not capacity issues. The problem, of course, is the scarcity of wheelchair-accessible vehicles.