

Cab Availability and Ridership in New York City, 1990-99

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ABOUT SCHALLER CONSULTING

Schaller Consulting serves government, business and non-profit groups seeking to satisfy customer needs in all forms of urban transportation including bus, subway, paratransit, taxicab, livery and auto.

This report was prepared by Bruce Schaller, Principal of Schaller Consulting. Mr. Schaller has consulted to municipalities, universities, non-profit organizations and federal agencies, and was recently selected by a National Academy of Sciences panel for a study concerning central city transportation needs.

Mr. Schaller is a leading practitioner in the area of municipal taxicab regulation. He has written extensively on taxicab issues and consulted to municipalities and other organizations on taxi regulatory issues.

Prior to establishing Schaller Consulting in 1998, Bruce was Director of Policy Development and Evaluation at the New York City Taxi and Limousine Commission, Deputy Director for Marketing Research and Analysis at New York City Transit, and Senior Economist at the New York City Office for Economic Development. He has a Masters of Public Policy from the University of California at Berkeley and a B.A. from Oberlin College. He is also a Visiting Scholar at New York University's Center for Transportation Policy and Management.

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INTRODUCTION

This report presents comprehensive data for the past decade on fare revenues, mileage, ridership and service availability for the 12,187 yellow medallion taxicabs in New York City. Although this colorful industry is sometimes overlooked in serious discussions of transportation policy, cabs fill an important niche in the city's transportation network. Taxis provide on-demand, door-to-door service that fulfills many New Yorkers' need for convenient, speedy travel in the capital of face-to-face communications. Their niche is significant; cabs are the second-largest means of public transportation for traveling within Manhattan (after the subway).

This report is intended to further public understanding of New York City taxi demand, industry revenue and the availability of cab service. Results are based on taximeter and odometer readings collected at each cab's tri-annual vehicle inspections. These inspections, conducted at the NYC Taxi and Limousine Commission's computerized inspection facility in Queens, were designed to obtain definitive statistics on industry finances. TLC provided data files with taximeter and odometer readings to Schaller Consulting in response to a Freedom of Information request.

This report and other information on New York City transportation issues, including extensive information on the taxicab industry, are available at www.schallerconsult.com.

DATA DEFINITIONS

- **Fare revenue** is based on each cab's cumulative taximeter readings. Adjustments are made to include revenue from the 50 cent night surcharge and the \$30 flat fare from Kennedy International Airport to Manhattan. (Neither of these are captured by the meter data.) The JFK adjustment is based on counts of trips dispatched from JFK provided by the Port Authority of New York and New Jersey. Tips, estimated at 15% of the fare, are added to the meter fare.
- **Mileage** is based on odometer readings, adjusted for non-operating miles (i.e., for drivers' personal use of the vehicles).
- **Service availability** is measured as mileage operated without passengers. These "dead miles" spent cruising for passengers are the best available indicator of how readily would-be taxi passengers can hail a cab on the street. As cruising miles grow, a person standing at a given street corner is more likely to encounter an available cab. Similarly, a decrease in cruising miles signals a decrease in the availability of service.
- **Total passengers** are based on the number of trips (also recorded by taximeters) multiplied by an average of 1.4 passengers per trip.

SUMMARY

Taxi demand grew briskly in 1999, expanding industry revenue while contracting the availability of cabs to the public. A strong New York City economy propelled the taxi industry to a record \$1.39 billion in revenue in 1999, an increase of 4.2% over 1998. Service availability, measured by taxi cruising mileage, fell by 3.2%, the first significant decline in four years.

The 4.2% increase in industry-wide revenue was driven by higher demand for service in the midst of job and tourism growth in New York City. Higher demand is seen in healthy increases in cab revenue per mile. Increased industry-wide mileage also contributed to industry revenue growth. Industry mileage increased 1.8% in 1999 to 795 million miles, led by owner-drivers who increasingly leased their cabs for a second shift.

Service availability declined by 3.2% in 1999 to 271 million “cruising” miles, which is an indicator of how readily cabs can be hailed on the street. Since 1992 service availability has shrunk by 13%.

Other highlights on revenue, mileage, ridership and service availability:

- A record-high 241 million passengers rode in cabs in 1999. They paid an average metered fare of \$6.85-- or \$8.07 with the night surcharge and a 15% tip included.
- Another indication of higher fare revenues and increased demand for service in 1999 is the growth of “live miles” (miles with passengers). In 1999, live miles constituted 65% of total operating miles, up from 63% the previous year and 57% during the depth of a recession in 1992.
- Drivers grossed an average of \$1.80 per operating mile, or \$254 in gross revenue for an average shift of approximately 141 miles. (Gross revenue includes night surcharges and an estimated 15% tip, but does not reflect lease fee or other expenses borne by drivers.)
- The strong revenue increase in 1999 came on the heels of a more modest 1.5% increase in 1998 despite a stronger economy in 1998. Cab revenue growth was slowed in 1998 by transit fare incentives which attracted local travelers from taxis to buses and subways. Schaller Consulting’s econometric analysis estimates that the fare incentives introduced from mid-’97 to mid-’98 reduced taxi industry revenue by 2% from what they would have been otherwise. Thus, without the fare incentives, cab revenues would have grown by about 3.5% in 1998 instead of 1.5%. (The fare incentives were free transfers between bus and subway; a 10% bonus on fare purchases of \$15 or more; and 30-day and 7-day unlimited ride passes.)

REVENUE

Total taxi industry revenue increased to a record \$1.39 billion in 1999, up 4.2% from the previous year.

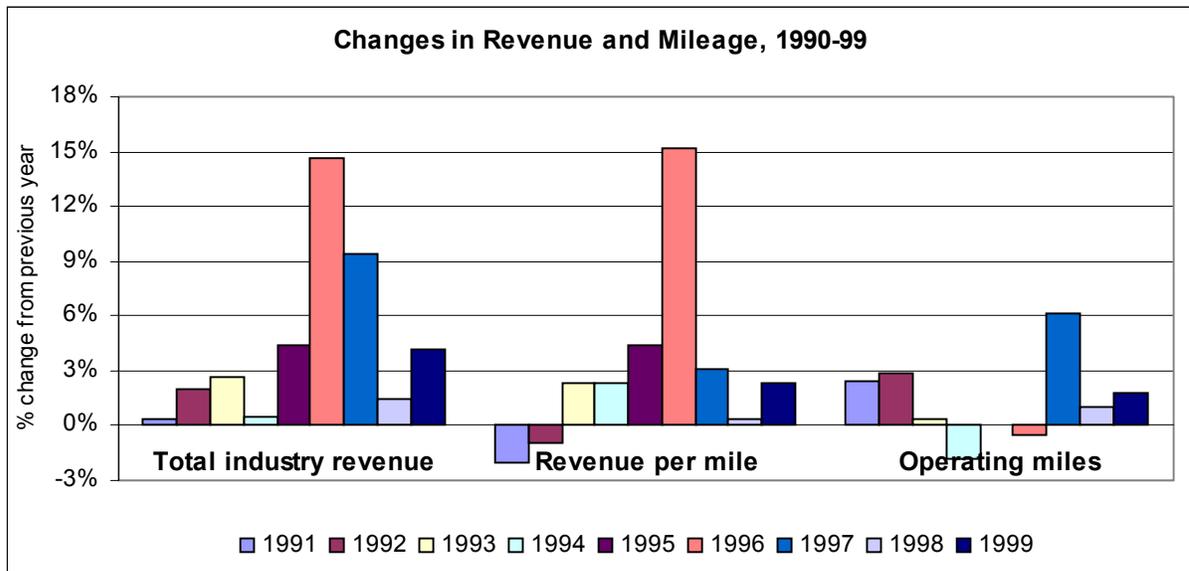
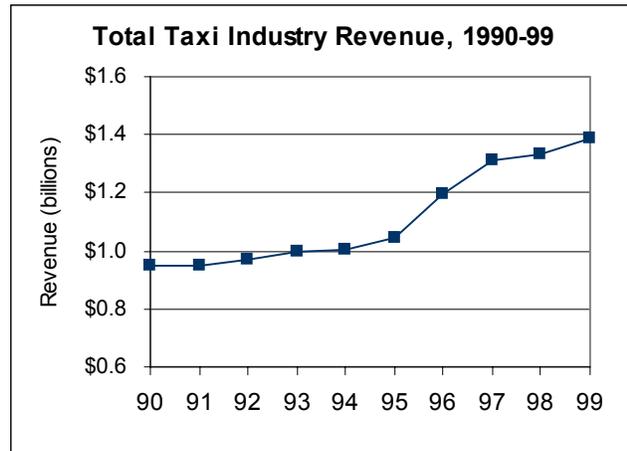
The gain in 1999 was one of the largest of the 1990s, exceeded only by a 4.4% increase in 1995 and increases in 1996 and 1997 that were largely the product of the February 1996 fare increase of 20%.

Industry-wide revenue changes are a product of several factors. These include demand for cab service, cab utilization including the extent of double-shifting, and the total number of cabs. Each of these grew through much of the 1990s.

Early in the decade, while demand (evidenced by revenue per mile) fell, cab drivers upped their miles to more than offset the impact of the recession on revenue. Overall revenue increased, aided by the increasing number of cabs fielded for two shifts instead of one shift per day.

Customer demand started to increase rapidly in 1995, propelled by rising tourism and renewed job growth in the city. Demand continued to increase rapidly through 1999, slowed only in 1998 by price competition from transit fare incentives.

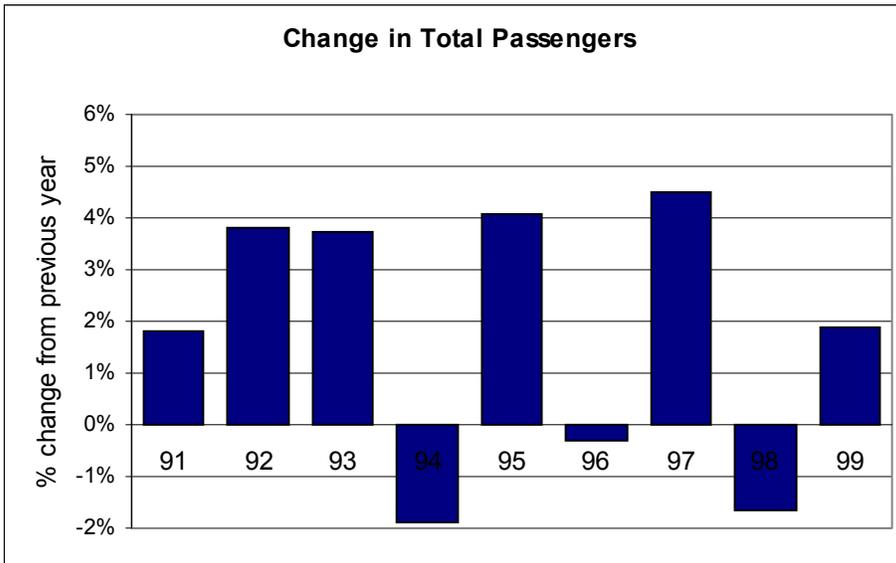
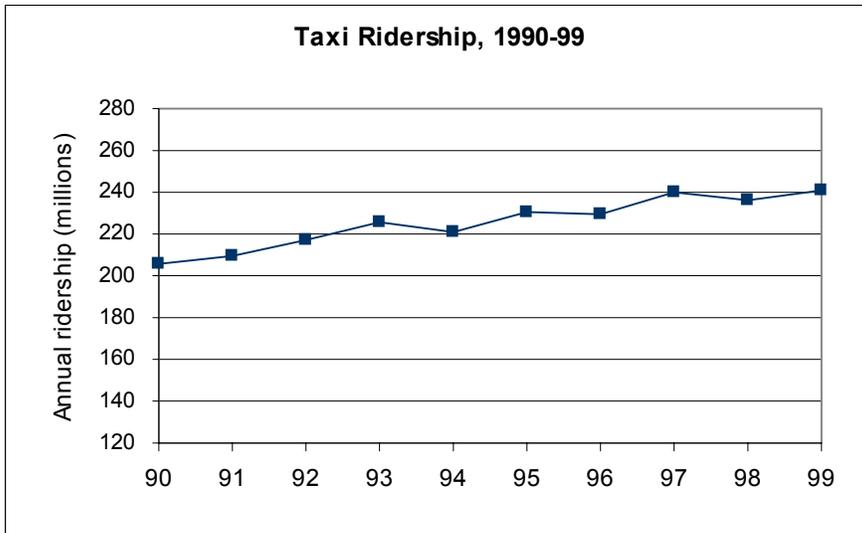
Mileage growth eased up in the mid-90s, only to resume again in the last three years. The large 6% increase in 1997 is partly due to issuance of 400 more taxicab licenses, which were the first new licenses issued in more than half a century. (See Table 1 at the end of this report for complete data.)



RIDERSHIP

Ridership increased by 17% in the 1990s, spurred by rising demand and increased cab mileage. Ridership in 1999 totaled 241 million passengers, carried in 172 million trips (assuming an average of 1.4 passengers per trip).

Increases in ridership were less than revenue growth, however. Revenue grew more rapidly due to the 1996 fare increase, and because the length (in miles) of the average trip increased, thus reducing the number of passengers per mile driven.

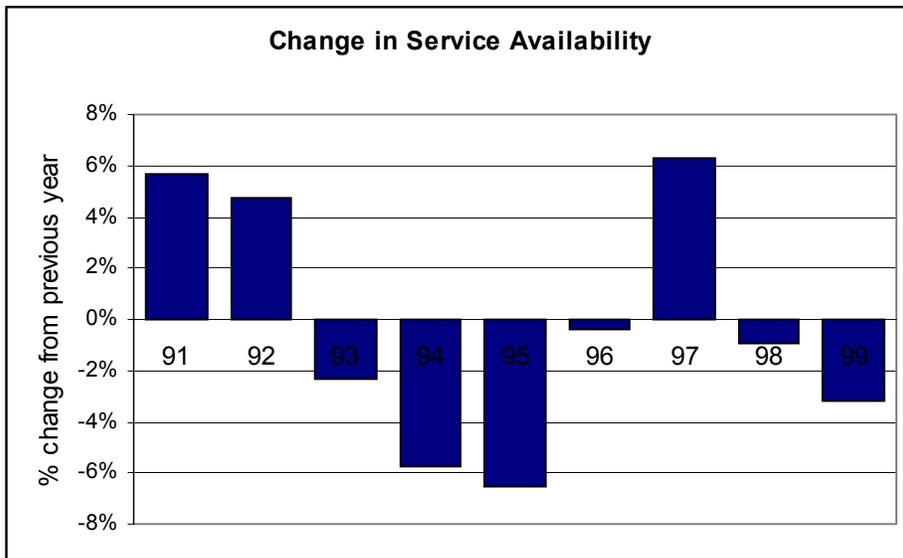
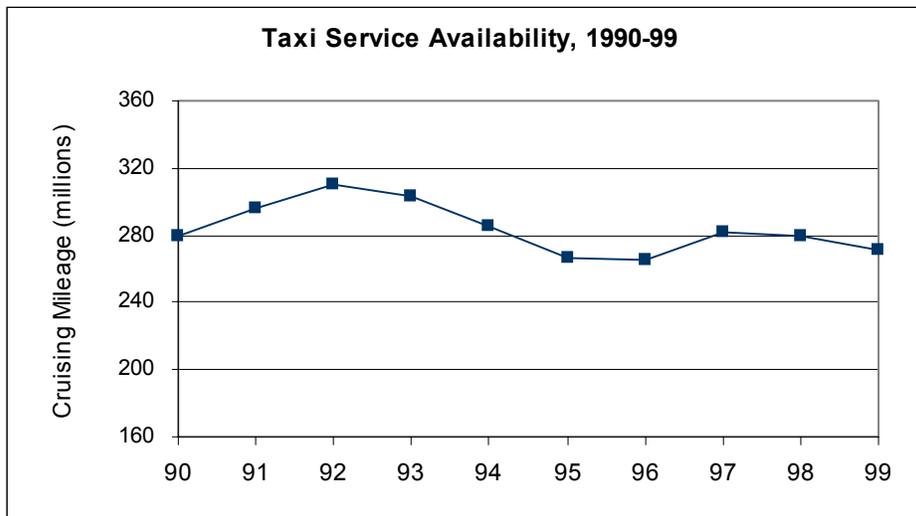


SERVICE AVAILABILITY

Service availability trends reflect changes in demand, mileage, taxi fares and to a lesser extent transit fares.

During the early 1990s, travelers desiring cab service benefited from the growth in industry mileage and recession-driven decline in demand. Service availability then reversed direction, declining from 1993 to 1995 as the improving economy spurred demand for service. The 1996 fare increase helped availability partially recover, as did the transit fare incentives which drew some passengers from cabs to buses or the subway.

Service availability declined again at the end of the 1990s, as job and tourism growth stimulated demand for service.



POLICY IMPLICATIONS

Because of the vital role that medallion taxicabs play in New York City's transportation nexus, cab service availability is an important issue. There are several indications that New York's strong economy is making cab service too difficult to come by. These include a rapidly-increasing number of refusal complaints, the subject of a City crack-down in the fall of 1999. Refusals, although stemming from a number of factors, have historically been directly related to trends in service availability. Another indication is recent public concern about how the afternoon shift change affects cab availability during rush hour. Findings in this report that availability is nearing its lowest level of the past decade document the validity of these concerns.

Policy-makers possess two main levers to reverse the recent decline in service availability. These are to increase the fare (which reduces demand for service) and to increase the number of cabs. Both approaches were used successfully in the 1990s. The 20% fare increase in 1996 improved availability by about 7%. Issuance of 400 additional taxicab licenses in 1996 and 1997 increased availability by about 4%.¹

These steps cannot be considered in isolation, however. The challenge of taxi regulation is to strike an appropriate balance among inter-related needs. Other impacts need to be evaluated when considering either a fare increase or service expansion. Increasing the fare, for example, has financial repercussions for both the public and the industry. What is an appropriate level of affordability of taxi service? How should the taxi fare be positioned relative to the transit fare? On the industry side, how should fare revenues be divided between taxi drivers and owners? Should disposition of new revenues be left to industry forces? Should lease fee regulation, first imposed in conjunction with the 1996 fare increase, be modified? Can a fare increase help satisfy the public's desire for more-experienced, better-quality drivers?

Increasing the number of cabs also raises environmental concerns, which have long been a stumbling block to issuing more taxi vehicle licenses ("medallions"). With cabs constituting 30% to 50% of traffic at many busy Manhattan intersections, would additional cab licenses adversely effect air quality and traffic congestion? This is not as simple a question as it may seem. The City's refusal to increase cab service in the 1950s, '60s and '80s precipitated the rise of the car service and black car industries. Yet these vehicles operate less efficiently than cabs, serving fewer passengers per day. Their inspections and emission checks are much less stringent. And they are likely to have more "cold starts" each day with correspondingly more emissions as a result.

These regulatory complexities cannot be ignored. But to serve a mobile, growing city, the public's need for readily-available cab service needs to be a driving force of policy rather than a "left-over" of decisions on fares, traffic, environmental and other concerns.

¹ These figures are based on econometric analysis of service availability and its determinants, using data through 1999. For methodology see Bruce Schaller, "Elasticities for taxicab fares and service availability," *Transportation*, Vol. 26, No. 3, August 1999, pp. 283-297.

APPENDIX. REVENUE, MILEAGE, RIDERSHIP AND SERVICE AVAILABILITY, 1990-99

New York City Yellow Medallion Taxicabs

	Total industry revenue (millions)	Operating miles (millions)	% "live miles" (with passengers)	Revenue per mile	Total passengers (millions)	Service availability (cruising miles) (millions)
1990	\$ 949	683	59%	\$1.39	206	280
1991	952	700	58%	1.36	210	296
1992	971	720	57%	1.35	218	310
1993	997	723	58%	1.38	226	303
1994	1,002	710	60%	1.41	221	285
1995	1,046	710	62%	1.47	230	267
1996	1,198	707	62%	1.70	230	265
1997	1,311	750	62%	1.75	240	282
1998	1,330	758	63%	1.75	236	280
1999	1,386	772	65%	1.80	241	271
Change over previous year						
1991	0.4%	2.4%		-2.0%	1.8%	5.7%
1992	2.0%	2.9%		-0.9%	3.8%	4.7%
1993	2.7%	0.4%		2.3%	3.7%	-2.4%
1994	0.5%	-1.8%		2.3%	-1.9%	-5.7%
1995	4.4%	0.0%		4.4%	4.1%	-6.6%
1996	14.6%	-0.5%		15.2%	-0.3%	-0.5%
1997	9.4%	6.1%		3.1%	4.5%	6.2%
1998	1.5%	1.0%		0.4%	-1.7%	-0.8%
1999	4.2%	1.8%		2.4%	1.9%	-3.2%

Revenue figures include 50 cent night surcharge and tips, estimated at 15% of the metered fare.