New York City

Mobility Report

NYC Department of Transportation

October 2016

Cover: Third Ave. at 57th St., Manhattan
This page: 86th St. at Central Park West, Manhattan

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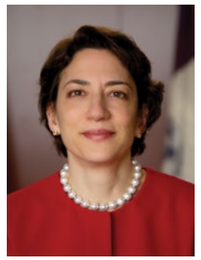
Queens Blvd., Queens

Letter from the Commissioner



Dear New York City Council Members and Fellow New Yorkers:

Our City has never in its history had this many residents, this many jobs, and this many visitors. In the last five years alone, we added as many jobs as we had added in the previous thirty years. This means that New York City has never had to move as many people and goods as it has to today. Our vibrancy is something to be celebrated—and examined. How did we get to this position? And how will we maintain and sustain it? This NYC Mobility Report seeks to provide New Yorkers the context of where we have been, where we are now, and the challenges we face as we chart our City's course in the 21st Century.

We are currently providing a historic level of mobility due to wise decisions to invest in high performance modes—beginning with the reinvestment in our mass transit system that began in the 1980s, and continuing today through NYCDOT's management of our streets to support travel by bus, on foot or by bicycle. However, now that we are bigger than ever, the challenges we face are becoming more and more apparent: subways and commuter trains crushed with passengers at peak periods; bus ridership declining, in part due to worsening congestion; and people and deliveries delayed by excessively slow moving traffic in many areas of the city. Together, we must now decide whether we will continue to support a vibrant and growing city by building on the lessons and wise choices of the past.

In order to better understand this context, this NYC Mobility Report presents data on the primary drivers of transportation demand in New York City—population, tourism, employment—side-by-side with transportation indicators related to vehicle use and transit ridership dating back to 1910. By examining these trends together, we can see what was happening in transportation when our city was thriving and when it was in decline.

We also utilize new technology and data sources to better understand and manage our streets today. This report, for example, analyzes data from the GPS in every yellow taxi circulating in Manhattan to help us understand changing travel speeds in midtown, as well as new data from MTA Bus Time in order to view citywide bus speeds. And for the first time, we compare the nature of taxi trips in Midtown with those via our bike share system, Citi Bike—including surprising findings about the average speed and distance of those trips.

While we have never been this big, traffic in our core has probably never been this slow. However, transportation is not an end in and of itself; NYCDOT seeks to provide mobility to support the lives and livelihoods of all our citizens, regardless of where they're going and how they get around. It has been an honor to support the economic vitality and quality of life of the greatest city in the world and I am looking forward to working with you to make it even greater.

Sincerely,

Polly Trottenberg

Lexington Ave. at
Grand Central Terminal,
Manhattan

Executive Summary

Putting Change In Context

More than six years out from the last recession, the trend is clear: New York City has grown dramatically and its growth has been served by high performance modes like mass transit, walking and cycling, not by increasing traffic volumes on roads and bridges. Incredibly, New York City added more than 500,000 jobs between 2010 and 2015—more jobs than the City added in the prior 30 years (1980 to 2010). In the following pages, we present key indicators of our City's vibrancy and how NYCDOT is supporting it. Below are some of the City's more significant changes, with comparative data to provide scale and context.

In 2015, there were:

45,000 fewer vehicles entering the Manhattan Central Business District per weekday than in 2010
→ A reduction greater than the total number of vehicles crossing the Manhattan Bridge into the CBD each day

159 million more annual subway trips than in 2010
→ An addition exceeding the annual total of all trips on San Francisco's BART system

46 million fewer annual New York City Transit bus trips than in 2010
→ A reduction greater than the annual ridership of the bus system serving San Antonio

520,000 jobs added since 2010
→ The equivalent of absorbing the entire labor force of the State of Montana

370,000 more New York City residents since 2010
→ These new New Yorkers alone exceed the population of Tampa, FL

10 million more tourists than in 2010
→ An addition equivalent to all the tourists that visited New Orleans

200,000 more daily cycling trips than in 2010
→ An increase nearly equivalent to the total number of daily cycling trips in Chicago

NYCDOT has served this growth and vitality by:

- **Improving quality of life for City residents through comprehensive street redesign projects that have improved pedestrian access to transit, as well as street safety and efficiency.**
- **Expanding the city's bicycle lane network and implementing North America's largest bike sharing system, Citi Bike.**
- **Launching Select Bus Service routes throughout the city, reducing travel times and enhancing bus service in New York City.**
- **Utilizing new technology to implement real-time traffic management to better manage vehicular flow in congested areas of the city, such as the Midtown in Motion system in Manhattan.**

However, the downside to our increasing population, employment, and tourism is that congestion has worsened and bus ridership has declined. Traffic speeds in Manhattan south of 60th Street have fallen 12% between 2010 and 2015 while average bus speeds citywide have fallen by 2%. These trends highlight the fact that, in order to keep the city growing, we must continue to invest in the most efficient ways to keep it moving. This report looks at new technologies and new data to inform our approaches.

MTA Bus Time now provides a rich GPS data source that can help us develop plans that will keep buses moving amidst significant congestion. For the first time in this report, we map citywide congestion using Bus Time data as a proxy, providing new insights about travel speeds throughout the five boroughs. The analysis shows that average bus speeds are frequently over 10 mph on arterial roads between neighborhoods, but slowest in central business districts like Midtown Manhattan, Downtown Brooklyn, and Jamaica Queens where speeds are often 4 mph or less. We also provide an examination of five individual bus routes utilizing Bus Time to show how average travel speeds can vary by more than 10 mph from one segment to another along the same bus route, helping us pinpoint where problems are most acute.

In the Midtown Core, where congestion is most severe, average travel speeds in 2015 were 37% (over 3 mph) slower than in Manhattan south of 60th Street as a whole. To begin a discussion of how we are traveling now and how we could travel as population and densities increase, we place taxi trip and Citi Bike trip information side by side. We learn that in Midtown, a large portion of taxi trips are short distances and that comparable trips by Citi Bike are generally faster, and always less expensive. For example, average trips between 1-1.5 miles are more than 5 minutes faster and $10 cheaper by Citi Bike than taxi.

Our hope is that by providing a broad but comprehensive picture of where our city has been and how it has gotten to where it is today, we can all chart our course for continued success and vibrancy in the 21st Century.

** See the Methodology appendix for statistic sources.*

To keep the city growing, we must continue to invest in the most efficient ways to keep it moving.

Lafayette Street, Manhattan

Mobility in Context

New York City is currently hosting the highest number of residents, jobs, and tourists in its history. In other words, there has never been more demand for transportation.

New York's transportation system has always been closely linked to the city's larger economic and demographic trends. The following 30-year eras highlight how our transportation system changed as New York City has grown, contracted, and rebounded.

1920-1950

Significant growth in New York City. While subway ridership growth was modest, auto use accelerated rapidly.

- 40% growth in population
- 105% growth in vehicular river crossings to/from Manhattan
- 525% growth in vehicle registrations
- 26% growth in subway ridership

1950-1980

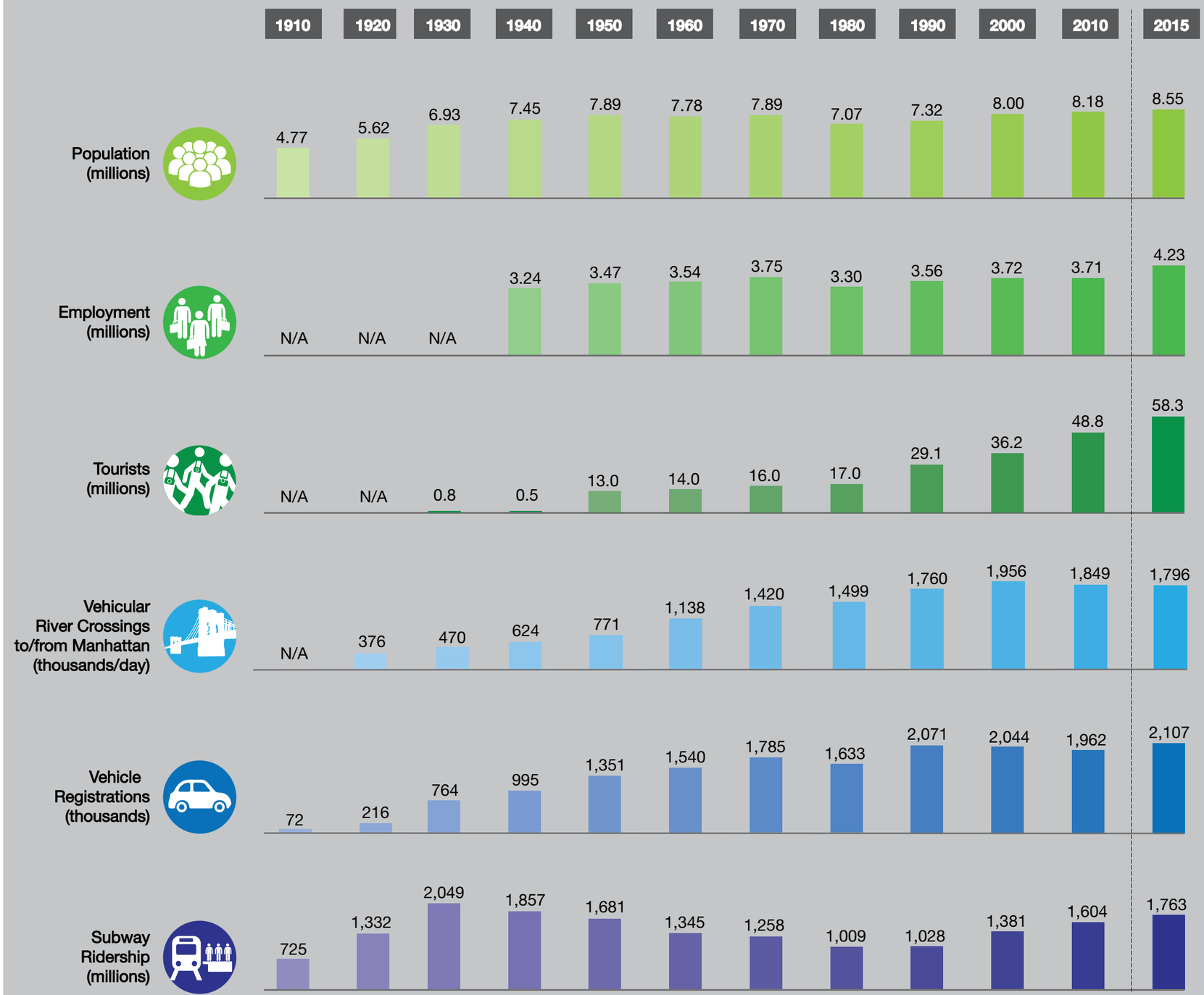
The city contracted while auto use grew. Transit ridership fell significantly.

- 10% decline in population
- 5% decline in employment
- 94% growth in vehicular river crossings to/from Manhattan
- 21% growth in vehicle registrations
- 40% decline in subway ridership

1980-2010

Growth in population; jobs and tourism added. Subway ridership increased in line with reinvestment in mass transit. Despite a rebounding economy and population, vehicle ownership and river crossings begin to decline after peaks in 1990 and 2000, respectively.

- 16% growth in population
- 12% growth in employment
- 187% growth in tourism
- 59% growth in subway ridership



N/A means data is not available.
For detailed methodology, see appendix.

Recent Travel Trends

This section takes a closer look at the main drivers of travel demand, as well as at trends in high performance modes, auto use, and travel speeds in New York City over the past six years with data from 2000, 1990, and 1980 provided for context.

Drivers of Travel

Travel demand is propelled in New York City by the number of residents, jobs, and visitors. All three of these indicators have grown since 2010, with employment leading the way.

- New York City added more than 500,000 jobs since 2010—half of which were gained in the past two years alone—the City's highest two-year job gain ever.
- The city's population has grown steadily since 2010 at an average annual rate of 1%.
- The annual number of tourists visiting New York City grew by 9.5 million between 2010 and 2015, an increase of nearly 20%.

High Performance Modes

Increased demand on the city's transportation system has led more New Yorkers to turn to the subway to get around.

- Subway ridership has grown an average of 2% since 2010, adding 159 million more annual riders by 2015.
- Cycling increased by 80% between 2010 and 2015 as bike infrastructure continued to expand on city streets.
- NYCT bus ridership dipped after service cuts in 2010. Despite a slight rebound in 2013, it has steady declined since, dropping 46 million passengers between 2010 and 2015. (Ridership data excludes MTA Bus for the sake of historical consistency.)
- Ferry ridership has fluctuated in recent years, rebounding in 2015 from two years of declining ridership.

	1980	1990	2000	2010	2011	2012	2013	2014	2015
Population (millions)	7.07	7.32	8.00	8.18	8.29	8.37	8.44	8.49	8.55
Employment (millions)	3.30	3.56	3.72	3.71	3.80	3.89	3.98	4.10	4.23
Tourists (millions)	17.0	29.1	36.2	48.8	50.9	52.7	54.3	56.4	58.3
Subway Ridership (millions)	1,009	1,028	1,381	1,604	1,640	1,655	1,708	1,751	1,763
NYCT Bus Ridership (millions)	589	468	699	697	671	668	678	667	651
Est. Cycling Trips (thousands/day)	100	100	150	250	270	320	380	420	450
Ferry Ridership (thousands/day)	57	87	85	110	102	106	98	88	109

N/A means data is not available.
For detailed methodology, see appendix.

Recent Travel Trends

Auto Use

The City's post-recession growth in population and employment have not been uniformly mirrored in indicators of auto use.

- The number of vehicles entering Manhattan south of 60th Street on a daily basis decreased 6% between 2010 and 2015.
- The number of TLC yellow cab trips dropped 17% from 2010 to 2015—including a decline of 11% in the past year alone.
- Between 2010 and 2015, 112,000 more household cars were registered in New York City, keeping the per capita car ownership rate in the city stable at 0.22 vehicles per resident.
- Despite a drop in TLC yellow cab trips, the number of for-hire vehicle registrations—which includes taxis, green cabs, black cars and private cab companies—has been growing at an increasingly rapid pace since 2010, reaching an all-time high of 72,000 in 2015.
- Daily freight trips are estimated to have increased steadily, growing by 5.7% between 2010 and 2013.

Travel Speeds

Travel speeds tracked by NYCDOT across Manhattan and citywide have declined consistently since 2012.

- NYCT citywide bus speeds have declined more than 2% since 2010.
- Travel speeds in Manhattan south of 60th Street have dropped 20% from 2010 speeds—and declined 10% in the past year alone. (Taxi GPS is used as a proxy for travel speeds.)

	1980	1990	2000	2010	2011	2012	2013	2014	2015
Vehicles Entering Manhattan south of 60th St (thousands/day)	N/A	745	835	776	764	751	747	731	731
Citywide Taxi Trips (millions)	126.2	146.4	171.4	172.2	171.5	170.5	168.8	161.0	142.7
Household Vehicle Registrations (thousands)	1,448	1,852	1,854	1,767	1,764	1,777	1,808	1,838	1,879
Taxi & For-Hire Vehicle Registrations (thousands)	20.2	46.4	48.4	41.2	44.4	48.0	52.7	60.4	72.0
Est. Citywide Freight Trips (thousands/day)	N/A	N/A	609.9	650.3	660.4	673.9	687.1	N/A	N/A
NYCT Bus Citywide Speed (mph)	N/A	8.03	7.82	7.64	7.71	7.68	7.53	7.49	7.47
Travel Speed in Manhattan south of 60th St (mph)	N/A	N/A	N/A	9.35	8.99	9.28	8.90	8.51	8.21

N/A means data is not available.
For detailed methodology, see appendix.

Citywide Bus Speeds

Ridership in Manhattan fell by 6% in 2014 and another 5% in 2015.

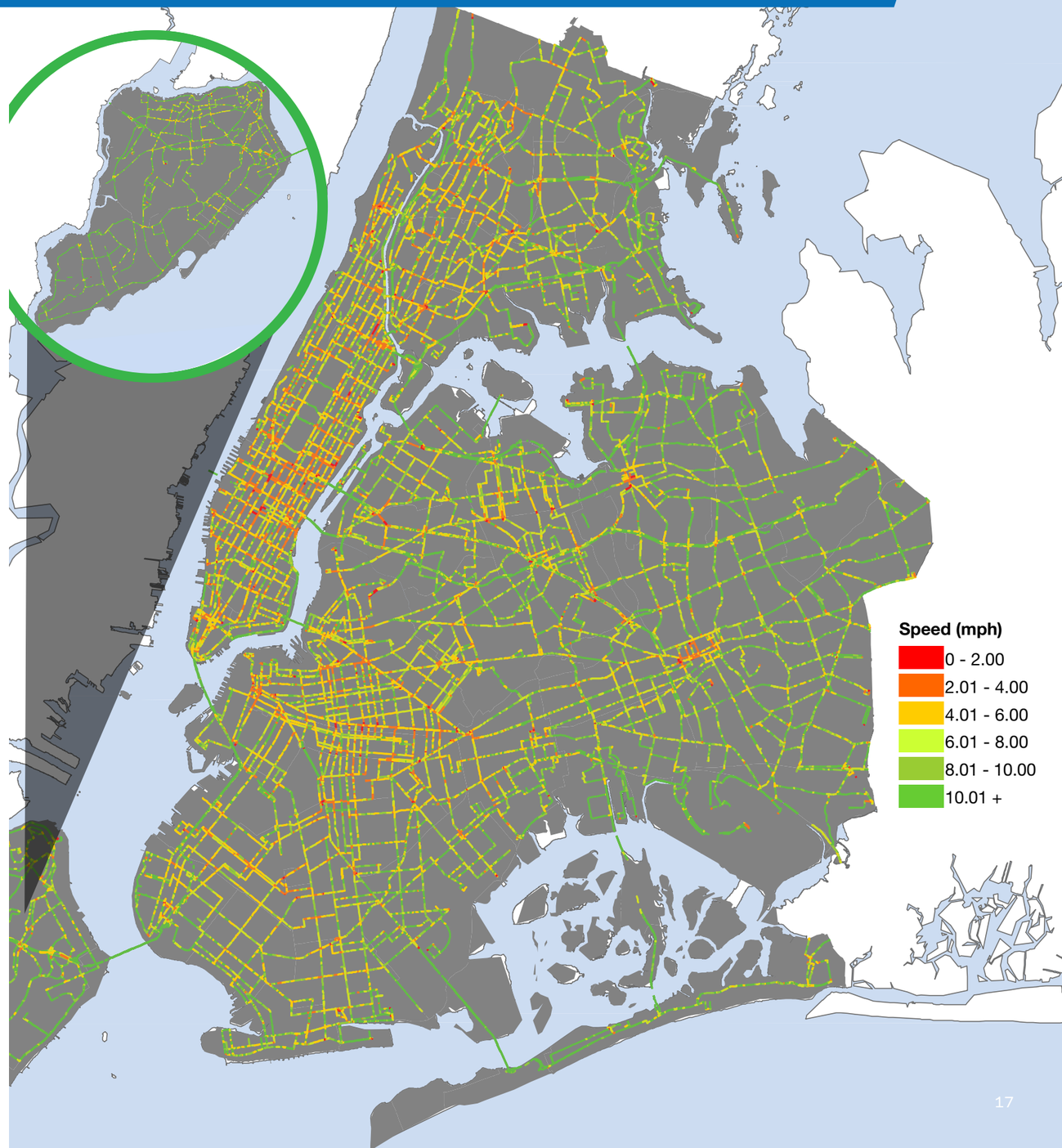
The MTA's introduction of Bus Time in 2012 has given NYCDOT an additional tool that it can look at to help evaluate travel conditions along bus routes. While this GPS information is not a perfect proxy for vehicular speeds, since time at bus stops is included, it does allow NYCDOT to study conditions in particular zones and corridors. As this map illustrates, average speeds of buses are frequently over 10 mph on arterial roads between neighborhoods, but slowest in commercial districts like Midtown Manhattan, Downtown Brooklyn, and Jamaica Queens where average bus speeds are often 4 mph or less. The less dense residential areas of eastern Queens, and the northern sections of the Bronx and Staten Island typically experience higher speeds.

Between 2014 and 2015, citywide bus ridership fell by 2%, dropping from 793 million total annual rides to 776 million. (These figures include both New York City Transit Bus and MTA Bus ridership.) Average weekday ridership in Manhattan, the borough with the slowest travel times, fell by 6% in 2014 and another 5% in 2015. Ridership in the outer boroughs declined by 1% in 2014 and nearly 1.5% in 2015.

Methodology

The data shown in this map are based on GPS data from the MTA Bus Time program that indicate the location of individual buses over time on their routes. This data is used to calculate average travel speed. Data was collected between 4 p.m. and 6 p.m. every typical weekday (Tuesday-Thursday) in November 2015, excluding Thanksgiving and the prior Wednesday. Data reflect speeds for individual routes. Bus route segments with insufficient data are not included. Travel speeds of 0 - 2 mph include time spent at bus stops, traffic signals, and in heavy traffic.

NYCT Bus Speeds Weekdays 4 p.m. - 6 p.m.

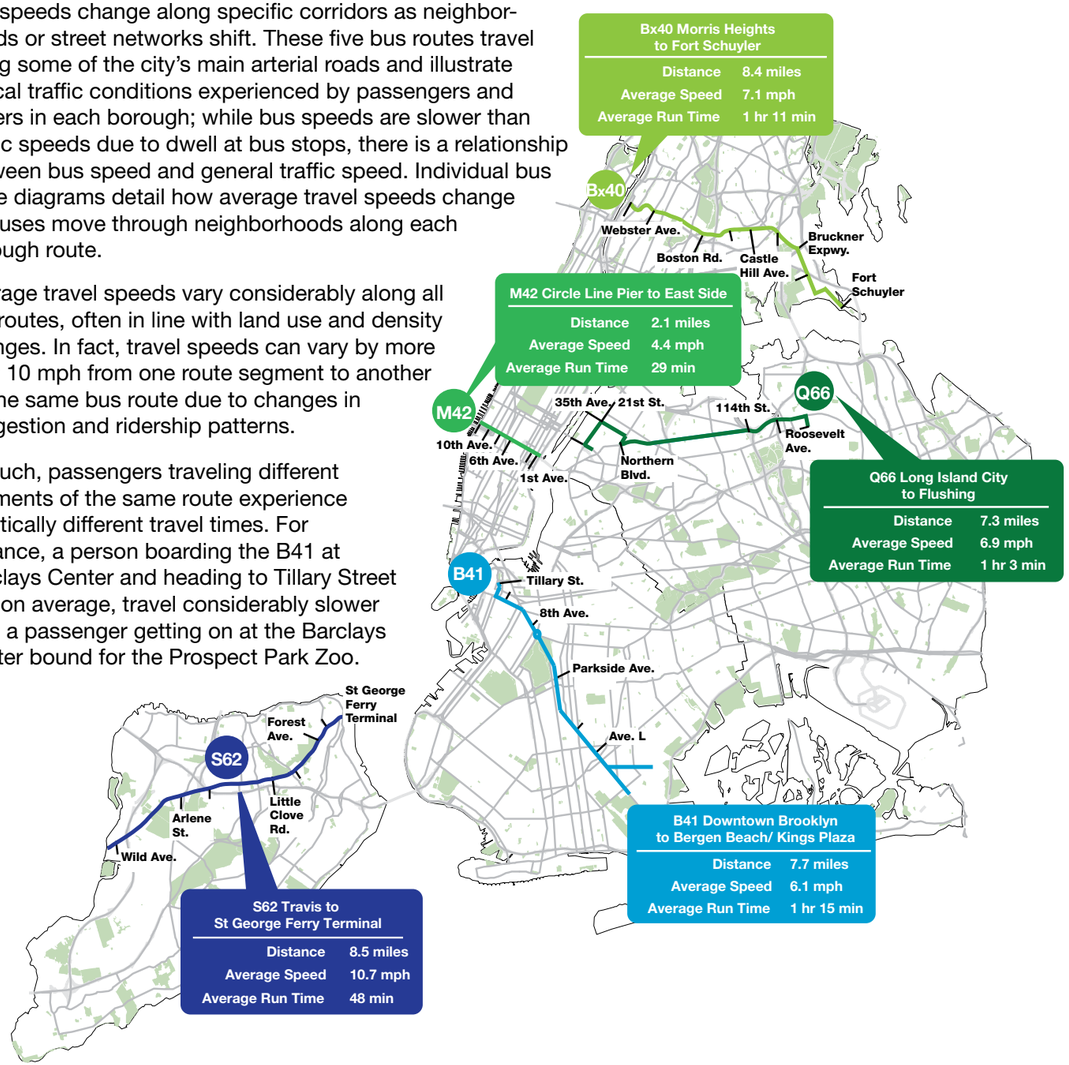


Citywide Bus Speeds

MTA Bus Time can be used to track bus speeds along individual bus routes, providing a closer look at how overall bus speeds change along specific corridors as neighborhoods or street networks shift. These five bus routes travel along some of the city's main arterial roads and illustrate typical traffic conditions experienced by passengers and drivers in each borough; while bus speeds are slower than traffic speeds due to dwell at bus stops, there is a relationship between bus speed and general traffic speed. Individual bus route diagrams detail how average travel speeds change as buses move through neighborhoods along each borough route.

Average travel speeds vary considerably along all five routes, often in line with land use and density changes. In fact, travel speeds can vary by more than 10 mph from one route segment to another on the same bus route due to changes in congestion and ridership patterns.

As such, passengers traveling different segments of the same route experience drastically different travel times. For instance, a person boarding the B41 at Barclays Center and heading to Tillary Street will, on average, travel considerably slower than a passenger getting on at the Barclays Center bound for the Prospect Park Zoo.

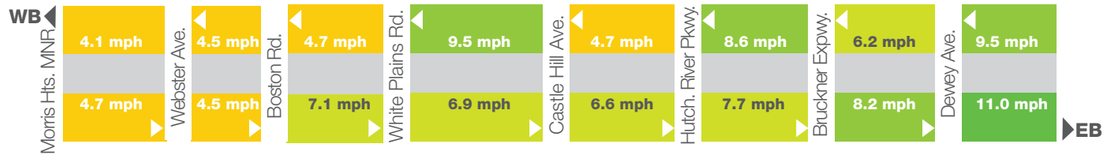


Methodology

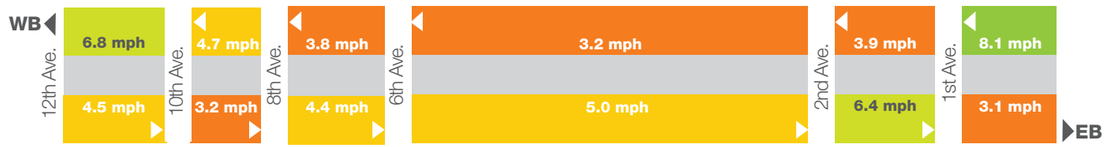
The data shown in these diagrams are based on GPS data from the MTA Bus Time program that indicate the location of individual buses over time along their routes, which is used to calculate average travel speeds. Data used for these calculations was collected between 7 a.m. and 7 p.m. every typical weekday (Tuesday-Thursday) in November 2015, excluding Thanksgiving and the prior Wednesday. Travel speeds of 0 - 2 mph include time at bus stops, traffic signals, and in heavy traffic. B41 information is for Bergen Beach terminus.

Bus Speed by Route Segment

Bx40 Tremont Av Crosstown from Morris Heights to Fort Schuyler

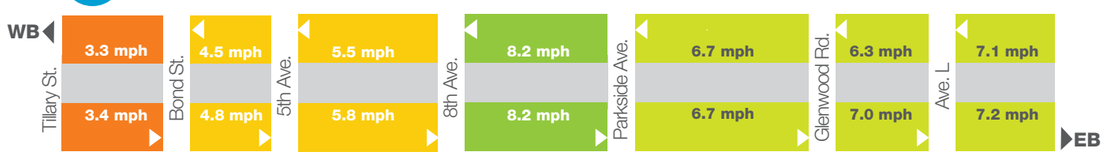


M42 42nd St Crosstown from Circle Line Pier to East Side

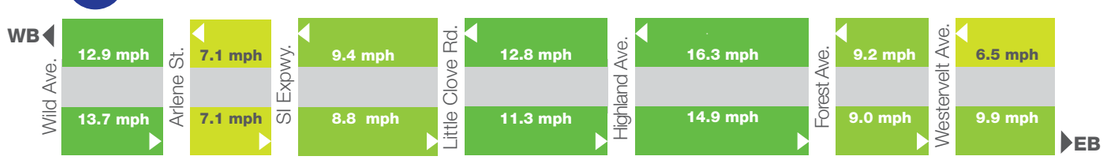


Q66 Northern Blvd from Long Island City to Flushing

B41 Flatbush Av from Downtown Brooklyn to Bergen Beach/Kings Plaza



S62 Victory Blvd from Travis to St George Ferry Terminal



Speed (mph)

10.01 +	6.01 - 8.00	2.01 - 4.0
8.01 - 10.00	4.01 - 6.00	0 - 2.00

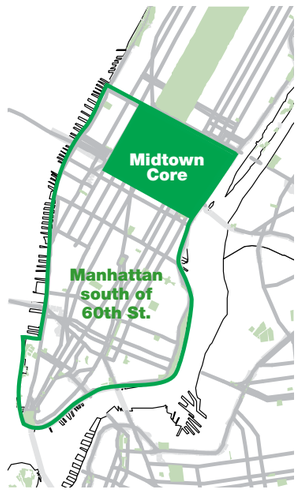
WB: Westbound
EB: Eastbound

Citi Bike & Taxis in Midtown

Midtown Core

New York City's vitality has long been associated with Midtown Manhattan. Bounded by East River and Ninth Avenue to the east and west, and 59th and 35th Streets to the north and south, the roughly 1.8-square-mile Midtown Core is home to the world-famous commercial centers of Broadway, Rockefeller Center, Herald Square, and Times Square. Given Midtown's central location, workforce density, and economic importance, mobility in the Midtown Core plays a major role in the city's day-to-day functioning.

On a typical fall day, TLC yellow cabs make over 85,000 trips that either pick up or drop off in the Midtown Core; 19% of these never leave the area. In other words, 15,837 trips both start and end within the 1.8-sq-mile Midtown Core.



Using Citi Bike data, NYCDOT can track the speeds, lengths, and costs of bike share trips in the Midtown Core and compare them to TLC yellow cab data. The following analysis demonstrates how cycling provides a cheaper and faster alternative to vehicular travel in the Midtown Core.

Taxi Trips that Start & End in Midtown Core on a Typical Fall Day 2015, 8 a.m. - 6 p.m.

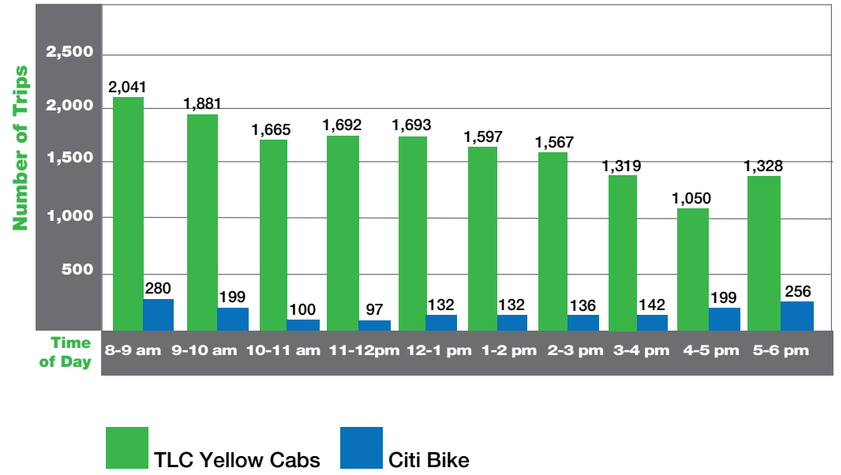
Length (miles)	Trips	%	Avg. Time (m/s)	Avg. Speed (mph)	Avg. Cost
0 - 0.5	3,137	20%	5:40	4.2	$7.08
0.5 - 1	7,940	50%	10:01	4.7	$9.59
1 - 1.5	3,820	24%	15:25	4.9	$12.83
1.5 - 2	828	5%	20:18	5.1	$15.76
2 +	112	1%	24:18	5.5	$18.37
Total	**15,837**	**100%**			

Citi Bike Trips that Start & End in Midtown Core on a Typical Fall Day 2015, 8 a.m. - 6 p.m.

Length (miles)	Trips	%	Avg. Time (m/s)	Avg. Speed (mph)	Avg. Cost
0 - 0.5	218	13%	4:19	6.7	$1.05
0.5 - 1	700	42%	7:16	7.3	$1.05
1 - 1.5	600	36%	10:21	7.8	$1.05
1.5 - 2	150	9%	13:54	7.8	$1.05
2 +	6	0%	18:28	7.5	$1.05
Total	**1,673**	**100%**			

- **For all trips that both begin and end in the Midtown Core, Citi Bikes are at least 2 mph faster and $6 cheaper than taxis.**
- **More than two-thirds of all taxi trips taken wholly within the Midtown Core are less than one mile long.**
- **For trips of 1-1.5 miles, average Citi Bike trips are more than 5 minutes faster and $11.75 cheaper than average taxi trips.**

Taxi and Citi Bike Trips Wholly within the Midtown Core by Hour on a Typical Fall Day 2015



- **On a typical fall day, taxis picking up and dropping off passengers wholly within the 1.8-square-mile Midtown Core travel a cumulative average of 1,395 miles every hour—more than the driving distance between New York City and Miami.**
- **Citi Bike is used as a form of commuter transit: More than half of Citi Bike trips within the Midtown Core (56%) take place during the morning and evening commutes (8-10 a.m. and 4-6 p.m.).**
- **On a typical fall day, there are an average of 1,580 taxi trips per hour wholly within the Midtown Core, which is nearly 10 times the number of average Citi Bike trips per hour.**

For all trips that both begin and end in the Midtown Core, Citi Bikes are at least 2 mph faster and $6 cheaper than taxis.

Methodology

Taxi Trips: The Midtown Core is bounded by East River and Ninth Avenue to the east and west, and 59th and 35th Streets to the north and south, inclusive. Taxi data is a weekday average of data collected on all weekdays during the month of October 2015 (excluding major holidays) from 8 a.m. to 6 p.m. through TLC yellow cab GPS devices.

Citi Bike: Citi Bike data is a weekday average of data collected on all weekdays during the month of October 2015 (excluding major holidays) from 8 a.m. to 6 p.m. for trips that start and end at stations within the Midtown Core, as defined above. Average per trip Citi Bike costs are generated by weighting median trip costs by the proportion of annual to daily and weekly memberships. Median per-trip Citi Bike costs are calculated using the full-price of annual, week, and day memberships (excluding individual discounts and overage fees) and the actual number of trips taken by Citi Bike memberships over the course of an entire subscription period (to minimize distortions due to seasonal variations and incomplete membership periods). While memberships in this data set were purchased under earlier pricing schemes, per-trip costs are calculated based on current rates and include sales tax.

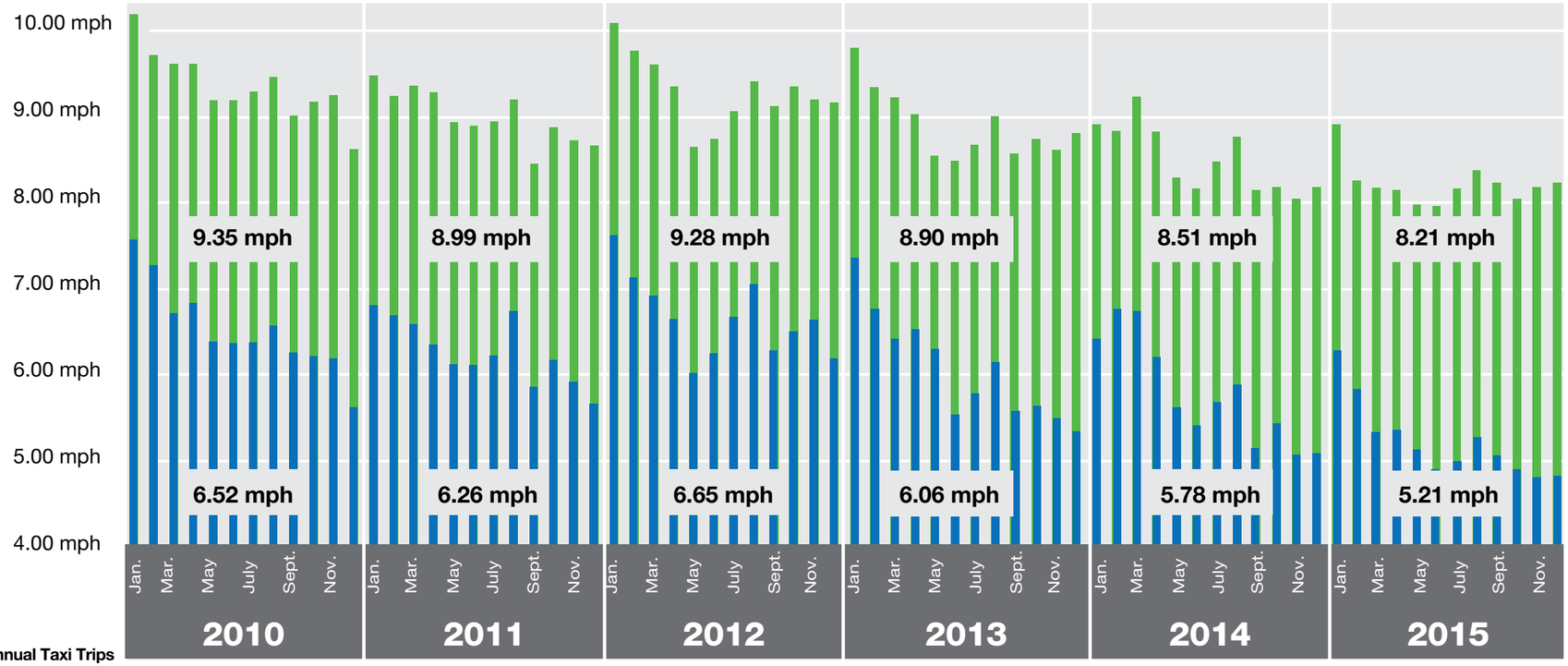
Manhattan CBD & Midtown Travel Speeds

While Manhattan south of 60th Street is often referred to as the Central Business District (CBD), the Midtown Core has the greatest concentration of economic activity. (See map on page 20.) Looking at taxi GPS data as a proxy for travel speeds, the concentration and its effect on travel speeds becomes clear.

- Annual average travel speeds in Manhattan south of 60th Street fell by 12% (1.14 mph) from 2010 to 2015, while speeds in the Midtown Core fell by 20% (1.31 mph) during the same period.
- In 2015, average travel speeds of yellow cabs in the Midtown Core were 37% (over 3 mph) slower than those in Manhattan south of 60th Street.
- Average travel speeds typically peak in January, slow down in early summer, and are at their lowest in September and December.
- Annual taxi trips in Manhattan south of 60th Street fell by 8.9 million between 2010 and 2015, including a drop of 6.6 million rides in 2015 alone.

In 2015, average travel speeds in the Midtown Core were 37% (over 3 mph) slower than those in the rest of Manhattan south of 60th Street.

Average Taxi Speeds in Manhattan CBD and the Midtown Core 2010-2015



Annual Taxi Trips	2010	2011	2012	2013	2014	2015
Citywide	172.2 million	171.5 million	170.5 million	168.8 million	161.1 million	142.7 million
Manhattan CBD south of 60th St.	27.2 million	28.7 million	27.5 million	26.3 million	24.9 million	18.3 million
Midtown Core	6.2 million	6.0 million	5.5 million	5.6 million	5.1 million	4.4 million

Speeds overlaying bar chart refer to annual averages for Manhattan CBD and Midtown Core.

NYCDOT will continue posting regular updates of this travel speed chart at http://www.nyc.gov/html/dot/html/about/ssi.shtml

Taxi speeds in Manhattan CBD (south of 60th Street)

Taxi speeds in the Midtown Core

Methodology

Data was collected from GPS devices within TLC yellow cabs on weekdays between 8 a.m. and 6 p.m., excluding major holidays. Travel speeds are annual averages of GPS data from TLC yellow cabs based on the calendar year. The Midtown Core is bounded by 59th to 35th Streets and 9th Avenue to the East River, inclusive. Midtown Core data is incorporated into the analysis of Manhattan south of 60th Street data.

Intervale Ave. at Dawson St., Bronx

Appendices

Appendix: Traffic and Transit Trends

CITYWIDE TRENDS
(All data in thousands)

Year	NYC population *	NYC employ-ment	Citywide traffic**	Transit Ridership ***
1990	7,336	3,564		5,206
1991	7,375	3,373		5,047
1992	7,429	3,280		4,977
1993	7,506	3,289	4,066	5,086
1994	7,570	3,320	4,089	5,236
1995	7,633	3,337	4,137	5,259
1996	7,698	3,367	4,192	5,187
1997	7,773	3,440	4,292	5,424
1998	7,858	3,527	4,408	5,893
1999	7,948	3,619	4,503	6,335
2000	8,018	3,718	4,535	6,737
2001	8,071	3,689	4,430	6,921
2002	8,094	3,581	4,502	6,979
2003	8,144	3,531	4,566	6,801
2004	8,184	3,549	4,589	6,919
2005	8,214	3,602	4,541	7,069
2006	8,251	3,666	4,523	7,205
2007	8,275	3,745	4,505	7,401
2008	8,364	3,790	4,407	7,638
2009	8,392	3,687	4,428	7,446
2010	8,175	3,711	4,468	7,419
2011	8,245	3,798	4,376	7,450
2012	8,344	3,885	4,385	7,628
2013	8,405	3,981	4,416	7,726
2014	8,491	4,102	4,371	7,812
2015	8,550	4,225	4,406	7,810

* Populations for interim years between the decennial census (1990, 2000, 2010) are estimates, which may trend higher than populations ultimately reported by the decennial census.

** Sum of all daily weekday traffic volumes at Borough and City boundaries.

*** Sum of average daily boardings on NYCT subways (excluding students and seniors using return trip coupons) and buses, MTA Bus local routes, and privately operated local buses.

DAILY VEHICLE TRAFFIC INTO THE CBD, BY SECTOR OF ENTRY * *(All data in thousands)*

Year	New Jersey	60th Street	Queens	Brooklyn
1990	101	350	104	191
1991	98	357	104	200
1992	101	382	108	185
1993	102	370	107	182
1994	104	358	107	185
1995	104	361	117	189
1996	106	378	120	183
1997	107	380	132	197
1998	109	388	139	207
1999	112	393	135	203
2000	112	390	132	201
2001	67	371	128	134
2002	104	380	134	179
2003	110	396	140	186
2004	110	385	134	196
2005	108	379	134	188
2006	110	366	142	187
2007	110	356	137	192
2008	103	341	133	182
2009	104	346	138	182
2010	105	351	134	186
2011	100	349	138	177
2012	100	334	139	179
2013	98	332	132	186
2014	96	326	131	178
2015	97	320	137	177

* Any discrepencies between these figures and those in previous SSI and NYMTC Hub Bound reports are due to revised methods of performing vehicle class counts.

TRAVEL INTO THE CBD
(All data in thousands)

Year	Ferry riders to/ from CBD	Daily vehicles into CBD *	Daily transit riders into CBD	Cyclists crossing into CBD **
1990	87	745	2,174	1.6
1991	84	759	2,154	1.8
1992	81	776	2,127	2.2
1993	81	760	2,157	2.3
1994	82	754	2,206	2.4
1995	82	772	2,210	3.3
1996	84	787	2,237	3.7
1997	84	817	2,249	3.5
1998	85	842	2,294	2.8
1999	103	842	2,431	2.9
2000	85	835	2,517	2.0
2001	n/a	700	2,390	2.5
2002	129	797	2,441	3.2
2003	119	832	2,392	4.4
2004	102	825	2,454	4.4
2005	100	810	2,472	4.8
2006	97	806	2,566	6.6
2007	101	795	2,683	6.5
2008	105	759	2,743	8.5
2009	105	770	2,586	10.9
2010	110	776	2,662	11.7
2011	102	764	2,662	13.2
2012	106	751	2,762	13.3
2013	98	747	2,826	14.7
2014	88	731	2,852	15.1
2015	109	731	2,983	15.4

* Any discrepencies between these figures and those in previous SSI and NYMTC Hub Bound reports are due to revised methods of performing vehicle class counts.

** Cyclists entering and leaving Manhattan at the East River bridges weekdays from 7 a.m. to 7 p.m. Count is on a single mid-summer weekday from 7am to 7pm from 1990-2006. The value for 2007 is the average of 3 counts taken in May, Aug. & Sept. The value for 2008-2011 and 2013 is the average of 10 counts taken between April and Oct. The value for 2012 is the average of 10 counts taken between May and Oct. From Jan. 2014 onward, data was primarily automated and is an average of each month excluding holidays and days with precipitation.

DAILY TRANSIT RIDERS INTO THE CBD, BY SECTOR OF ENTRY *(All data in thousands)*

	New Jersey	60th Street	Queens	Brooklyn
1990	264	754	521	598
1991	257	764	522	579
1992	250	747	503	594
1993	254	755	515	601
1994	272	790	521	593
1995	269	800	525	587
1996	283	799	525	601
1997	299	785	534	601
1998	292	795	552	624
1999	312	866	571	645
2000	332	877	596	682
2001	325	843	553	668
2002	335	869	559	645
2003	333	857	526	647
2004	350	864	535	674
2005	356	876	553	656
2006	372	911	557	695
2007	390	926	597	738
2008	388	977	596	746
2009	385	889	565	711
2010	405	902	580	738
2011	401	906	583	737
2012	400	944	601	778
2013	409	968	616	799
2014	412	978	613	820
2015	451	996	645	855

TRAVEL OUTSIDE THE CBD
(All data in thousands)

Year	Daily vehicle traffic *	Daily bus ridership **
1990		
1991		
1992		
1993	3,305	
1994	3,335	
1995	3,366	
1996	3,410	
1997	3,478	
1998	3,566	1,749
1999	3,660	1,883
2000	3,704	1,983
2001	3,734	2,080
2002	3,710	2,131
2003	3,749	2,062
2004	3,767	2,077
2005	3,736	2,115
2006	3,722	2,160
2007	3,714	2,192
2008	3,651	2,240
2009	3,657	2,190
2010	3,690	2,154
2011	3,611	2,097
2012	3,634	2,123
2013	3,669	2,138
2014	3,640	2,119
2015	3,674	2,090

* Sum of all daily traffic volumes at borough and city boundaries, excluding volumes at points entering the Manhattan CBD.

** Sum of all average daily boardings on local bus routes operated by NYCT, MTA Bus, and private operators. During years for which complete data are only available for NYCT local routes (2002-2005), private and MTA Bus local route data are estimates.

DAILY VEHICLE TRAFFIC OUTSIDE THE CBD, TWO-WAY VEHICLE VOLUMES AT BOROUGH OR CITY BOUNDARIES
(All data in thousands)

Year	Nassau-Queens	The Bronx-Manhattan	The Bronx-Queens *	Verrazano Narrows Bridge
1990		540		
1991				
1992		537	272	183
1993	892	542	266	178
1994	897	526	274	181
1995	893	522	277	185
1996	896	531	273	185
1997	907	547	272	183
1998	920	560	286	195
1999	947	563	291	195
2000	940	579	295	203
2001	947	569	294	219
2002	944	552	300	212
2003	969	550	299	206
2004	966	552	312	206
2005	959	561	297	194
2006	935	557	309	207
2007	952	558	304	201
2008	952	539	309	204
2009	956	544	299	202
2010	964	550	298	204
2011	958	545	289	195
2012	964	547	293	193
2013	970	558	294	192
2014	963	538	299	187
2015	960	531	311	198

* Sum of two-way daily traffic on the Throgs Neck, Bronx-Whitestone, and Triboro Bridge (Bronx toll plaza only)

DAILY VEHICLE TRAFFIC OUTSIDE THE CBD, TWO-WAY VEHICLE VOLUMES AT BOROUGH OR CITY BOUNDARIES
(All data in thousands)

Year	George Washington Bridge	Westchester-The Bronx	Staten Island-NJ	Queens-Brooklyn
1990	273			
1991				
1992	268		145	
1993	261	506	141	519
1994	260	516	144	537
1995	266	532	144	547
1996	275	548	147	554
1997	282	555	152	580
1998	297	566	157	587
1999	318	584	167	595
2000	318	591	165	614
2001	309	607	177	612
2002	311	620	179	592
2003	319	620	175	612
2004	315	627	174	615
2005	304	633	172	615
2006	312	625	176	601
2007	291	636	170	601
2008	293	599	166	590
2009	290	609	166	592
2010	292	617	168	597
2011	280	602	170	574
2012	277	605	164	592
2013	278	610	158	608
2014	281	620	156	596
2015	295	622	163	595

* Average daily boardings on NYCT, MTA Bus, and private local bus routes. ** Includes data only from routes that operate exclusively north of 60th Street in Manhattan.

** Subset of Manhattan Local routes which operate above 60 St only (M18, M60, M66, M72, M79, M86, M96, M100, M106, M116)

DAILY BUS RIDERSHIP OUTSIDE THE CBD, BY BOROUGH * *(All data in thousands)*

Year	Upper Manhattan**	The Bronx	Queens	Brooklyn	Staten Island
1990					
1991					
1992					
1993					
1994					
1995					
1996					
1997					
1998	96	453	515	602	83
1999	109	483	556	648	89
2000	116	505	589	680	93
2001	122	528	614	721	96
2002	128	535	623	749	96
2003	126	515	599	728	93
2004	131	523	593	737	93
2005	132	529	620	741	94
2006	130	543	647	744	96
2007	130	545	685	736	97
2008	129	551	729	733	97
2009	127	539	726	703	94
2010	126	538	728	669	94
2011	122	520	724	640	92
2012	123	529	737	642	91
2013	124	543	742	634	94
2014	119	548	735	621	95
2015	117	539	728	610	96

Appendix: Related Reports

NYCDOT continually evaluates and publishes the performance of its major transportation projects throughout the city in accordance with Local Law 90 of 2009.

Project updates and evaluations can be found at NYCDOT's Major Transportation Projects site: http://www.nyc.gov/html/dot/html/about/major-transportation-proj.shtml

Additional related documents and publications through which NYCDOT reports on its efforts to reduce congestion and promote high performance modes are listed below.

Find the latest NYCDOT reports: http://www.nyc.gov/html/dot/html/about/dotlibrary.shtml

Title	Summary
Manhattan River Crossings	This report, published annually by DOT since 1972, presents vehicular volumes, classification, and trends for all bridge and tunnel facilities serving Manhattan.
New York City Bridge Traffic Volumes	Since 1948, DOT has monitored traffic flows on 47 bridges throughout the five boroughs. This report summarizes vehicular volumes, classification data, and trends for the 47 bridges that cross over water, as well as the nine bridges and tunnels operated by the Metropolitan Transportation Authority and the six bridges and tunnels operated by the Port Authority of New York and New Jersey.
New York City Screenline Traffic Flow Report	This report presents vehicular volumes and historical comparisons across the Bronx-Westchester, Queens-Nassau, Manhattan-New Jersey, Staten Island-New Jersey, and Brooklyn-Queens screenlines.
Urban Freight Initiatives	This report outlines initiatives aimed towards advancing policies and programs which mitigate the adverse impacts of trucks on infrastructure and communities, while improving safety, truck delivery efficiency, and New York City's economic competitiveness.
Protected Bicycle Lanes in New York City	This report contains an analysis of how protected bicycle lanes installed by DOT in Manhattan since 2007 have impacted safety, mobility, and economic vitality.
High Pedestrian Crash Locations: Pedestrian Safety Improvements at the Top 20 Intersections	This report, in response to Local Law 11 of 2008, addresses DOT's ongoing commitment to improve safety at high pedestrian crash locations. The law requires DOT to identify the twenty highest crash locations based upon a ranking of the total number of crashes involving pedestrians. Safety improvements have been recently implemented at all, with additional improvements scheduled for the near future.
Bicycle Crash Data	As required by Local Law 13 of 2011, DOT compiles the total number of bicycle crashes reported by city agencies. The Bicycle Crash Data report contains information on crashes involving only bicycles, between bicycles and motorized vehicles, and between bicycles and pedestrians. This data includes the number of injuries resulting from such crashes and is grouped by borough and by police precinct.

Title	Summary
Strategic Plan 2016: Safe · Green · Smart · Equitable	New York City is bigger and more bustling than ever and the strains on our transportation system are evident to all who live, work, and visit here: Sidewalks are overflowing, subway trains are packed, and our streets are full of pedestrians, cyclists, cars, trucks, and taxis. This plan is our response to these and other challenges. The plan reiterates our commitment to improving traffic safety and public health, expanding travel choices for all New Yorkers, supporting the City's efforts to fight climate change, doubling cycling, and maintaining our streets and bridges in a state of good repair.
Making Safer Streets	Over the past decade, New York City has seen a 30% decline in traffic fatalities, the lowest level since records were first kept in 1910, making New York City's streets the safest of any big city in the United States. This report focuses on how smart and innovative street design can dramatically improve the safety of our streets. The results reported here are based on "before and after" comparisons of crash data for projects implemented in the last seven years.
Measuring the Street	Cities need to set new goals for their streets to meet the needs of a growing population and to address vehicle crashes, traffic congestion, under-performing bus and bike networks, and environments that are inhospitable for pedestrians. The projects described in this report demonstrate how New York has been able to transform its streets by blending new technologies with time-tested tools. The metrics shown in the report are used to measure success and inform the design of future projects.
The Economic Benefits of Sustainable Streets	New York City has been a leader in transforming the city's streets into more efficient and welcoming spaces for all users. This report introduces a robust new metric for assessing the local economic impacts of street improvements.

Vision Zero Borough Plans and Updates can be found at NYCDOT's Vision Zero page: http://www.nyc.gov/html/dot/html/pedestrians/ped-safety-action-plan.shtml

Vision Zero Borough Plans	Vision Zero seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside a motor vehicle. In an effort to drive these fatalities down, DOT, NYPD, and other agencies developed a set of five plans, each of which analyzes the unique conditions of one New York City borough and recommends actions to address the borough's specific challenges to pedestrian safety.

Mayor's Management Report Updates can be found on the NYC website: http://www1.nyc.gov/site/operations/performance/mmr.page

Mayor's Management Report	The Mayor's Management Report (MMR), which is mandated by the City Charter, serves as a public account of the performance of City agencies, measuring whether they are delivering services efficiently, effectively and expeditiously. The MMR is released twice a year. The Preliminary MMR provides an early update of how the City is performing four months into the fiscal year. The full-fiscal MMR, published each September, looks at the City's performance during the prior fiscal year.

Executive Summary

Manhattan Bridge Traffic: NYCDOT 2015 Manhattan River Crossings

BART Ridership: BART 2015 Factsheet

San Antonio Bus Ridership: American Public Transportation Association, Public Transportation Ridership Report, 4th quarter 2015.

Montana Labor Force: Bureau of Labor Statistics.

Tampa, FL Population: United States Census Bureau

New Orleans 2015 Annual Tourists: New Orleans Convention and Visitors Bureau

Chicago 2015 Estimated Daily Cycling Trips: Conservative estimate of trips taken per day by bicycle. Number is rounded to nearest 10,000 and based on the American Community Survey three-year rolling average count/sample of workers who commute by bicycle.

Mobility in Context

Population: United States Census Bureau

Employment: Total non-farm employment in New York, NY: New York State Department of Labor.

Tourism: The annual number of tourists in New York City. 2015-1990: NYC & Company (1991 data is substituted for 1990.) 1980-1970: "Are Casinos Worth the Gamble?" *New York Magazine*, June 15, 1981. (1975 data is substituted for 1970.) 1960: 1960 Statistical Guide for New York City. 1950: New York Convention and Visitors Bureau, Inc. as quoted in "Convention Tally Highest Since 1939", *The New York Times,* October 3, 1949. (1949 data is substituted for 1950.) 1940: "Big-City Vacation", *The New York Times*, June 13, 1943. (1943 data is substituted for 1940.) 1930: How New York Became American, 1890–1924, Angela M. Blake (1929 data is substituted for 1930.)

Vehicular River Crossings to/from Manhattan: River crossings are one of the measures of auto use that dates back the furthest in New York City records. For 1950-2015 data, counts are of vehicular traffic flow on the bridges and tunnels heading to and from Manhattan on an average day; for 1920-1940 data, original entering-Manhattan counts are doubled as an approximation of dual direction traffic. 1950-2015: NYCDOT 2015 Manhattan River Crossings. 1920-1940: Traffic in New York City: A Statistical Study, NYCDOT 1968 historical report. (1924 data is substituted for 1920.)

Vehicle Registrations: New York State Department of Motor Vehicles. (1915 data is substituted for 1910.)

Taxi & For-Hire Vehicle Registrations: "Vehicle Registrations in Force," Archive of Statistical Summaries, New York State Department of Motor Vehicles.

Recent Travel Trends

Decade statistics are not averages of each decade, but statistics for that specific year.

Population: United States Census Bureau

Employment: Total non-farm employment in New York, NY. New York State Department of Labor.

Tourism: The annual number of tourists in New York City. 2015-1990: NYC & Company (1991 data is substituted for 1990.) 1980-1970: "Are Casinos Worth the Gamble?" New York Magazine, June 15, 1981.

Subway Ridership: Metropolitan Transportation Authority New York City Transit (MTA NYCT)

Bus Ridership: The Metropolitan Transportation Authority operates buses under two divisions: New York City Transit and MTA Bus Company. (The MTA Bus Company was created in September 2004 to assume the operations of seven bus companies that operated under franchises granted by the New York City Department of Transportation.) For the sake of historical consistency, citywide bus ridership is calculated for New York City Transit local and express bus service, not including MTA Bus Company ridership. 1990-2015: MTA New York City Transit; 1980: NYCDOT records.

Estimated Daily Cycling Trips: Conservative estimate of trips taken per day by bicycle. Number is rounded to nearest 10,000 and based on the American Community Survey three-year rolling average count/sample of workers who commute by bicycle. These workers take two trips by bicycle per day. For 2014, the 41,900 bicycle commuters take 83,600 bike trips per day. Only 18% of travel in New York City consists of commutes to and from work. If the ratio of general commute to non-commute travel held in relation to bicycle travel, these 83,600 bicycle trips would extrapolate to 464,444 bicycle trips per day (83,600/.18). The provided estimate uses 20% as the percentage of bicycle travel that is commute-related. The results appear quite conservative as a 2011 Physical Activity Study conducted by the NYC Department of Health & Mental Hygiene yielded an estimated 310,000 bike trips per day in 2011; using the commute adjustment method yields only 250,000 trips per day in 2011.

Ferry Ridership: Based on ridership in and out of the Manhattan Central Business District on a typical fall day. Hub Bound Travel, New York Metropolitan Transportation Council.

Vehicular River Crossings to/from Manhattan: River crossings are one of the measures of auto use that dates back the furthest in New York City records. The counts are of vehicular traffic flow on the bridges and tunnels heading to and from Manhattan on an average day. 1950-2015: NYCDOT 2015 Manhattan River Crossings.

Citywide Taxi Trips: The cited figures are citywide annual totals of TLC yellow cab trips. 2010-2015: TLC Taxi GPS data. 1980-2000: The New York City Taxicab Fact Book, Schaller Consulting (1977 data is substituted for 1980.)

Household Vehicle Registrations: New York State Department of Motor Vehicles.

Taxi & For-Hire Vehicle Registrations: "Vehicle Registrations in Force," Archive of Statistical Summaries, New York State Department of Motor Vehicles.

Estimated Citywide Freight Trips: Estimates of citywide freight trips are generated by a model developed in a collaboration between Rensselaer Polytechnic Institute, University of Albany, and TNO Delft (Netherlands). For details, see "National Cooperative Freight Research Program Report 19: Freight Trip Generation & Land Use," available for free download from the Transportation Research Board website, trb.org. Internet-generated deliveries have not been incorporated into this freight-generation model.

Travel Speed in Manhattan south of 60th Street: Average travel speeds are calculated from total vehicle revenue miles traveled and vehicle passenger hours captured by GPS devices in TLC yellow cabs in Manhattan south of 60th Street. Data was collected 7 a.m. - 7 p.m. Tuesday-Thursday the first three weeks in May and November of each year.

New York City Transit Bus Speed: Citywide bus speeds are calculated from total vehicle revenue miles traveled and vehicle passenger hours for NYCT buses, not including MTA Buses. 2000-2015 data is sourced from National Transit Database; 1990 data is sourced from MTA New York City Transit.

List of Abbreviations

- **CBD** Manhattan Central Business District: The Manhattan central business district (CBD) is the same area as defined by NYMTC for their Hub Bound Travel report. It covers Manhattan south of 60th Street, river to river.
- **CTI** City Traffic Index
- **DOT** New York City Department of Transportation (NYCDOT)
- **GPS** Global Positioning System
- **MTA** Metropolitan Transportation Authority
- **NYCT** New York City Transit, an agency within MTA
- **NYMTC** New York Metropolitan Transportation Counsel
- **TLC** New York City Taxi and Limousine Commission
- **SBS** Select Bus Service

Credits

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Ryan Russo: Deputy Commissioner, Transportation Planning and Management

This report was developed by the New York City Department of Transportation's Division of Transportation Planning and Management. Deputy Commissioner Ryan Russo directed the project team which consisted of Charles Ukegbu, Alexander Keating, Laura MacNeil, Mike Marsico, and Andrew Weeks. David Moidel and Kim Sillen of NYCDOT Creative Services are responsible for all of the graphic elements and general production of this report.

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