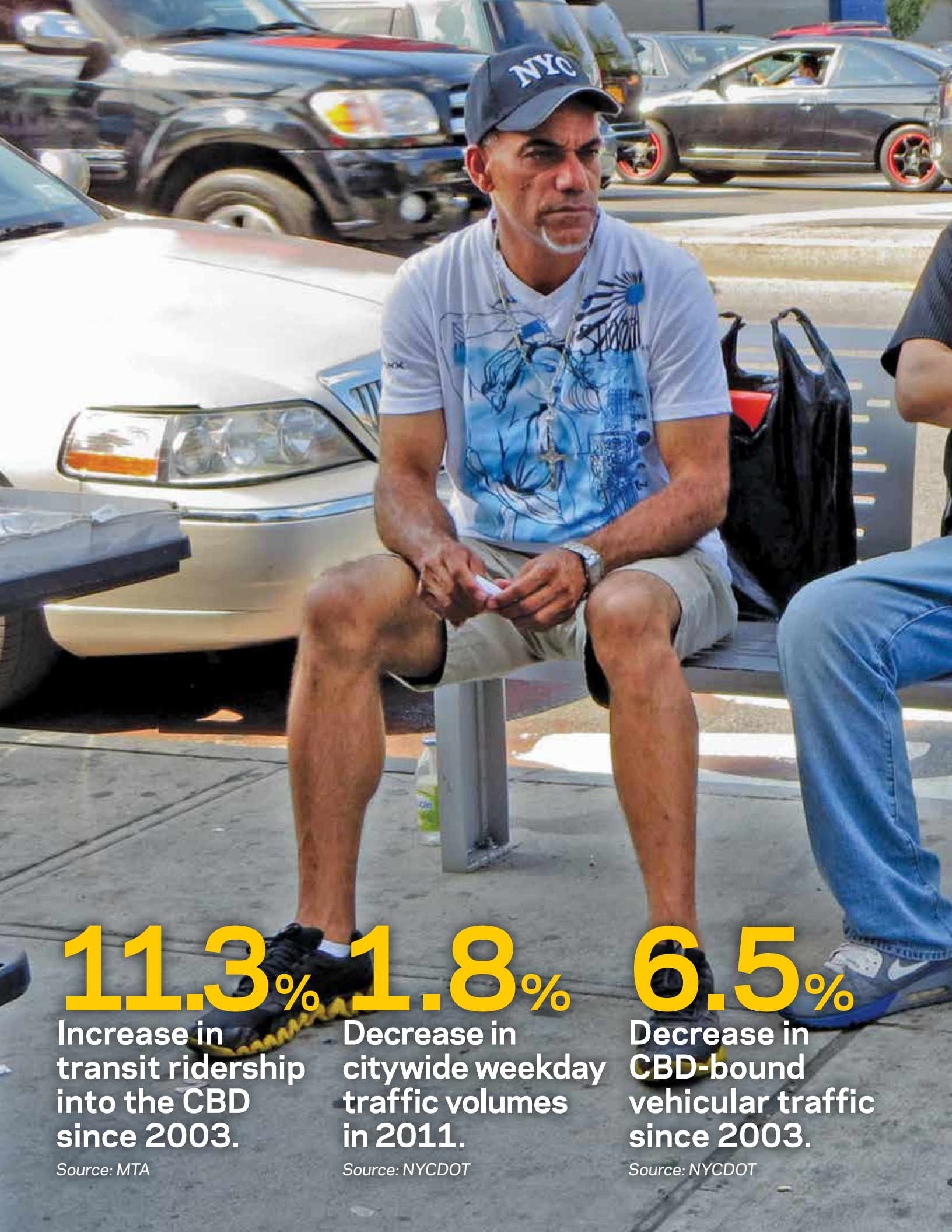
2012 Sustainable Streets Index

New York City Department of Transportation



11.3%

Increase in transit ridership into the CBD since 2003.

Source: MTA

1.8%

Decrease in citywide weekday traffic volumes in 2011.

Source: NYCDOT

6.5%

Decrease in CBD-bound vehicular traffic since 2003.

Source: NYCDOT

4%
Increase in year-round cycling in 2012.
Source: NYCDOT

58%
Increase in year-round cycling since 2008.
Source: NYCDOT

86%
Increase in winter cycling since 2008.
Source: NYCDOT

Contents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Letter from the Commissioner

Dear Fellow New Yorkers:

I am very pleased to issue the 2012 edition of the *Sustainable Streets Index*, New York City DOT's annual report on transportation trends and the performance of street improvement projects.

Since the release of Mayor Bloomberg's PlaNYC in 2007 and DOT's adoption of its *Sustainable Streets* strategic plan in 2008, DOT has developed a range of ambitious programs to upgrade the City's streetscape. An intensive focus on safety for all people using City streets underlies this work, with an emphasis on pedestrians as the most vulnerable group.

The project profiles in this *Index* strongly reflect DOT's concerted work to re-engineer streets with above-average crash histories, and to meet community concerns about vehicle speeds through designs that emphasize visibility, predictability and additional space for pedestrians. Results from project after project show impressive reductions in crashes that injure people. This critical work has produced the safest five years in a century of record keeping, with the fewest traffic fatalities ever recorded in New York City.

DOT's streetscape strategy also promotes a high quality experience in the city's public spaces. In this edition, we review results from DOT's remake of Brooklyn's Grand Army Plaza, which, thanks to redesigned pedestrian connections and traffic circulation, now invites people to walk through the famous archway at the plaza's center, instead of detouring around a tangle of traffic. New public space is also prominent in DOT's successful overhaul of traffic performance in Jackson Heights, an initiative generated by local stakeholders and elected officials.

Transportation efficiency does not take a back seat. Updating traffic operations and bus routing in Downtown Flushing has led to faster travel times *and* significantly improved safety in a key business and commuting hub. Similarly in Washington Heights, DOT's review of signal timing, lane configuration, and curb regulations has reduced congestion and crashes on West 181st Street. Most recently, the launch of Citi Bike has given New Yorkers a quick and convenient new option for getting around town. In the first three months, riders have already used Citi Bike to make over 2.5 million trips.

In executing our streetscape strategy, DOT has been meticulous in measuring and documenting results. The *Sustainable Streets Index* is a key element in tracking program and project performance and reporting it to New Yorkers. Continual research and review feeds back into future project design and provides the public with the opportunity to make highly informed choices about the future of the City's streetscape.

Under Mayor Bloomberg, New York has undertaken the most ambitious and thorough update of an American city streetscape in generations. NYCDOT's focus on performance, data and documentation has allowed us to deliver world-class improvements in traffic safety, mobility and the public realm. These changes provide a strong foundation for a thriving New York City throughout the 21st Century.

Sincerely,

Janette Sadik-Khan
Commissioner

Executive Summary

With New York City's economy rebounding, subway and bus ridership has resumed pre-recession growth while auto traffic remains essentially flat. Subway ridership increased 2.5% in 2011 and a further 1.8% in 2012. Bus ridership posted a 0.8% rise in 2012, the first increase since 2008. Citywide weekday traffic volumes, by contrast, were down 1.8% in 2011 (figures for 2012 are not yet available), and are essentially unchanged over the past four years, despite job growth of 3% since 2009. These figures show that in the wake of the recession, New Yorkers are driving less and using transit more, resuming the trend that was evident during growth years of the mid-2000s. Since 2003, citywide transit ridership has increased 9.5% while citywide traffic declined by 3.9%.

These trends are even more pronounced for travel into Manhattan's Central Business District (CBD – the area south of 60th Street). Since 2009, transit ridership is up 2.9%, while the number of vehicles entering the CBD has been roughly flat and the average speed of vehicles in the CBD has increased by 0.3%. Going back to 2003, transit ridership into the CBD is up 11.3% while vehicular traffic decreased 6.5%.

Across the five boroughs, DOT has continued to support this vitality by working to make transportation safer and more efficient for people and commerce alike. This fifth annual Sustainable Streets Index reviews traffic and transit trends in New York City, reports CBD traffic speeds based on taxi Global Positioning System (GPS) data, and presents data-driven indicators on the impact of eleven major DOT projects involving changes in street operations. A new feature this year uses taxi GPS data to assess wet weather impacts on traffic flow.

While the Project Indicators are only a sample of DOT's work to improve New York City's streets, they reflect how the agency is making our infrastructure greener, safer and more efficient for everyone. Below are some of the highlights from this year's featured projects:

- At Seventh Avenue and West 23rd Street, new pedestrian islands and improved traffic patterns resulted in a 61% decrease in crashes with injuries. Traffic is also moving better, with average delays down 25% for the intersection.
- On Slosson Avenue and Todt Hill Road on Staten Island, the incidence of speeding declined 55% after DOT implemented a set of community-requested traffic calming measures.
- In the heart of Downtown Flushing, crashes with injuries declined 10% after DOT expanded sidewalk space and reduced vehicle conflicts. At the same time, travel times are up to 37% shorter in peak hours.
- At Grand Army Plaza, traffic, crosswalk, and sidewalk improvements have led to a 19% reduction in crashes with injuries while reconnecting this landmark public space with neighboring communities.
- In Citi Bike's first three months of operation, customers logged 2,545,867 trips covering a total distance of 5,550,424 miles.

Traffic and Transit Trends

Summary

In 2011, New York City continued to show signs of recovery from the 2008 recession: citywide employment grew by over two percent and the city's population continued to rise. On the transportation front, this job and population growth resulted in a modest rise in transit use—driven by growing subway ridership—while citywide traffic volumes decreased. This pattern mirrors the transportation trend of the past 15 years: during periods of economic growth in New York City transit use has increased, while traffic has generally been flat or declined. After declines in both transit and traffic volumes during the recession that started in 2008, the city has now resumed the pattern of growing transit use and flat or declining auto use. New York City continues to add new jobs without increases in traffic volumes or congestion levels in the urban core.

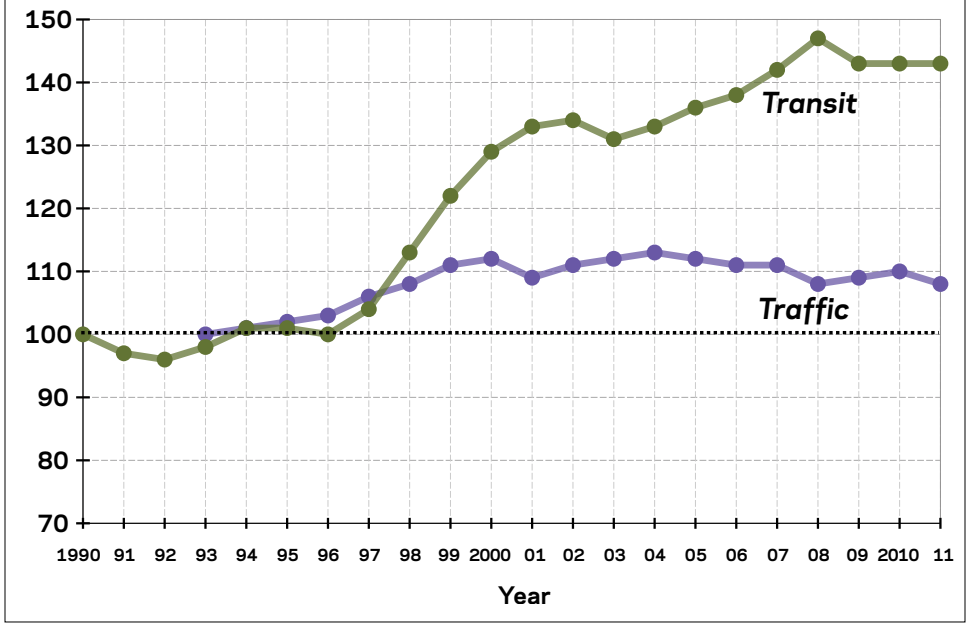
Traffic

Both traffic citywide and traffic into the Manhattan central business district (CBD) experienced declines in 2011: citywide traffic was down 1.8% and traffic into the CBD declined by 1.7%. Traffic levels were consistently down or flat at most monitored locations: traffic volumes on the bridges between the Bronx and Queens, the bridges between Brooklyn and Queens, the George Washington Bridge and the Verrazano-Narrows Bridge were all down 3-7% since 2008, while the Bronx-Manhattan crossings were up 1%. Daily traffic into the Manhattan CBD from New Jersey has decreased 3% since 2008.

DOT's four East River Bridges into the CBD – the Ed Koch Queensboro Bridge, Williamsburg Bridge, Manhattan Bridge and Brooklyn Bridge – as a whole have not experienced a noticeable change in traffic volumes since 2008. However, due to ongoing construction on the Brooklyn Bridge, with overnight closures for Manhattan-bound traffic that began in 2011 and resulted in a 17% drop in daily traffic, the other three bridges have seen traffic increases. The most significant increase was seen on the Manhattan Bridge (32%).

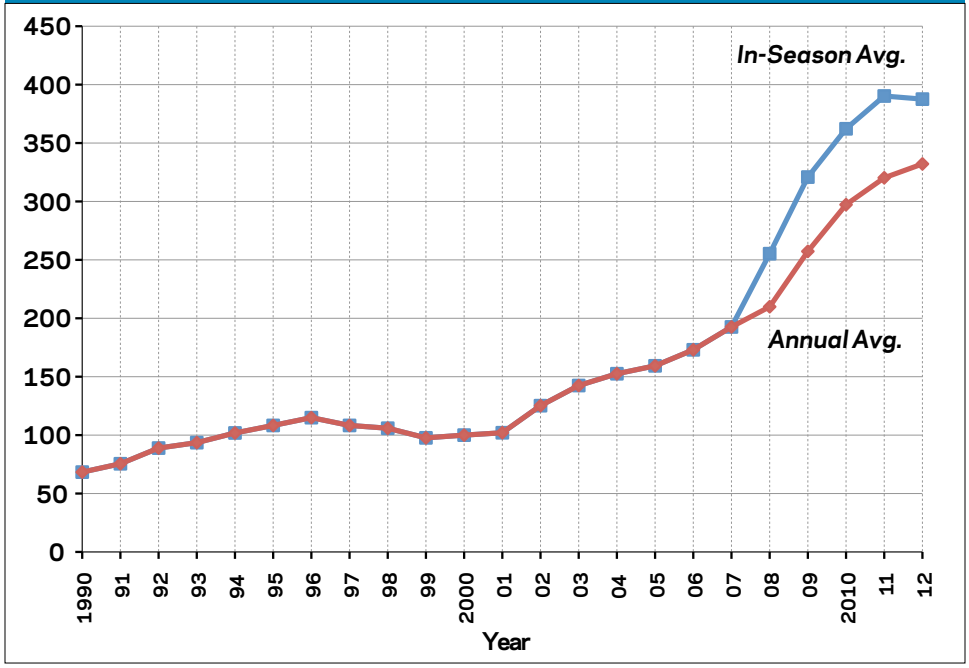
- 0.4% increase in citywide transit ridership in 2011.
- 1.8% decrease in citywide weekday traffic volumes in 2011.
- 9.5% increase in citywide transit ridership since 2003.
- 3.9% decrease in citywide traffic since 2003.

Citywide Transit and Traffic
(Traffic indexed to 1993/Transit indexed to 1990)



- 4% increase in annual average cycling in 2012.
- 1% decrease in in-season cycling (April-October).
- 58% increase in annual cycling since 2008.
- 52% increase in in-season cycling since 2008.

Bicycle Commuting
(Indexed to 2000)



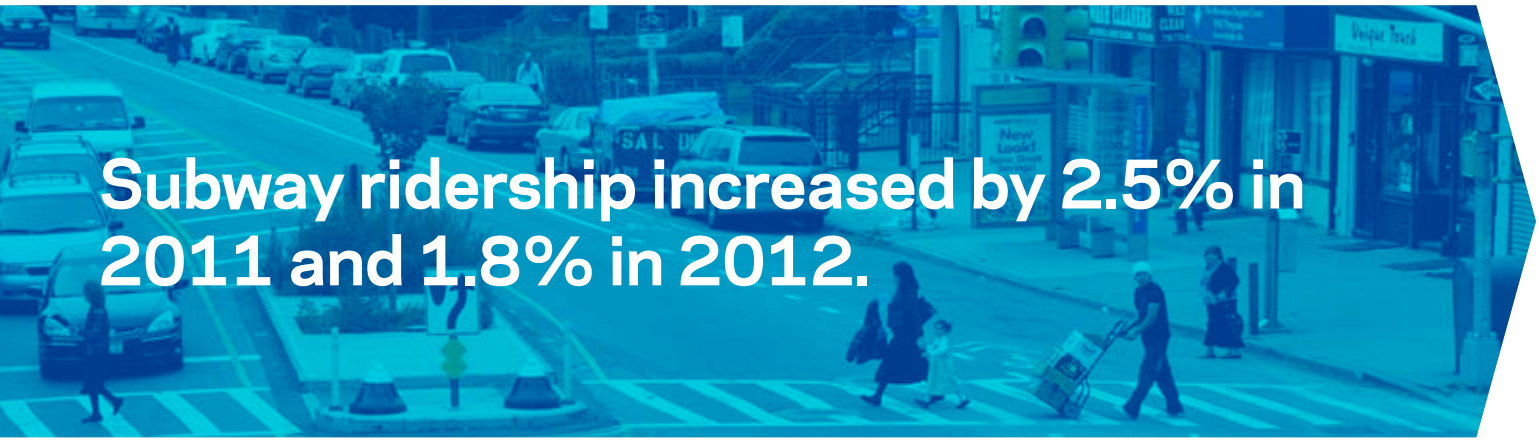
Transit

2011 was the first full year to include the 2010 MTA service cuts, which reduced or eliminated service on 110 bus routes and eliminated the V and W trains. The MTA also raised fares at the end of 2010, increasing the price of unlimited and single ride MetroCards. Despite the reduction in service and the increase in fares, citywide transit ridership did not decrease, instead experiencing a 0.4% increase. Continuing the trend of the last decade, increases in transit use have been powered by a growth in subway ridership, while local bus ridership has either been flat or in decline. On a whole, subway ridership is up over 4% between 2008 and 2011, while local bus ridership has decreased by 9% during the same period. Some of the decrease in bus ridership has been offset by the popularity of new Select Bus Service (SBS) routes. Since implementation in 2008, ridership is up 11% on the Bx12 SBS. Ridership is also up 8% on the M15 SBS, implemented in 2010, and 2% on the newest SBS route: the M34 SBS, which was implemented in 2011.

Other key trends

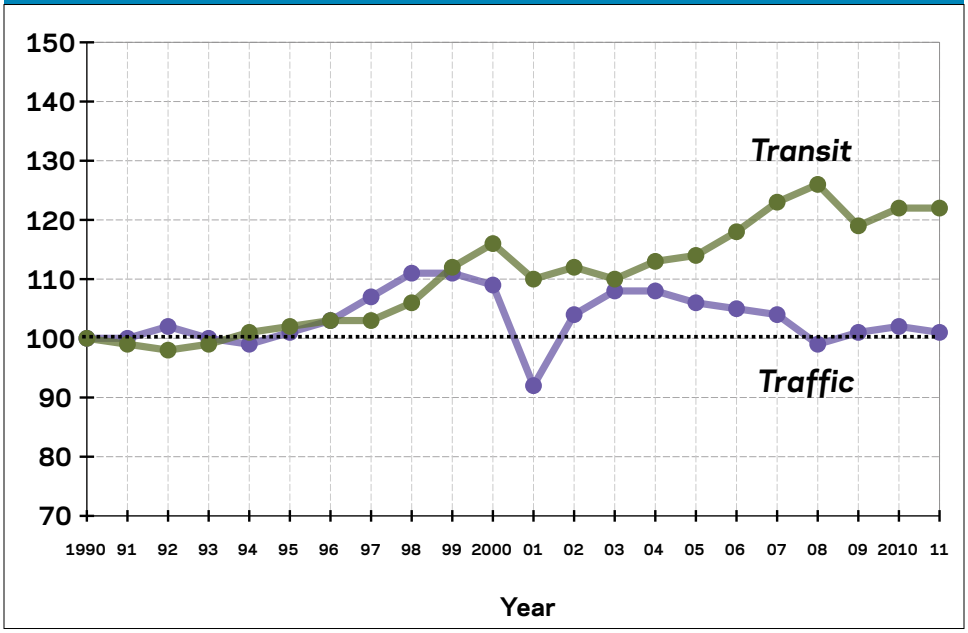
Other key trends for the city and the Manhattan CBD based on 2011 data and more limited 2012 data include:

- Citywide employment continued its upward trend in 2012. Employment grew by 2% in 2012, building on an increase of 2.3% in 2011 and bringing job numbers in the city back to 2008 levels.
- Subway ridership continued its upward trend. Citywide weekday subway ridership rose by 1.8% in 2012, building on an increase of 2.5% in 2011. Ridership now exceeds peak 2008 levels.
- Bus ridership increased in 2012, the first year to show an increase since 2008. Bus ridership is up 0.8% in 2012, after a decrease of 4.3% in 2011. Weekday bus ridership is now down 7.8% since the pre-financial crisis peak in 2008.
- In 2012, commuter cycling reporting was expanded to include summaries for both in-season cycling (April-October) and total annual cycling (including winter counts in December-February) periods. While in-season cycling decreased by 1% in 2012, the increase in winter cycling increased the year-round total by 4%.



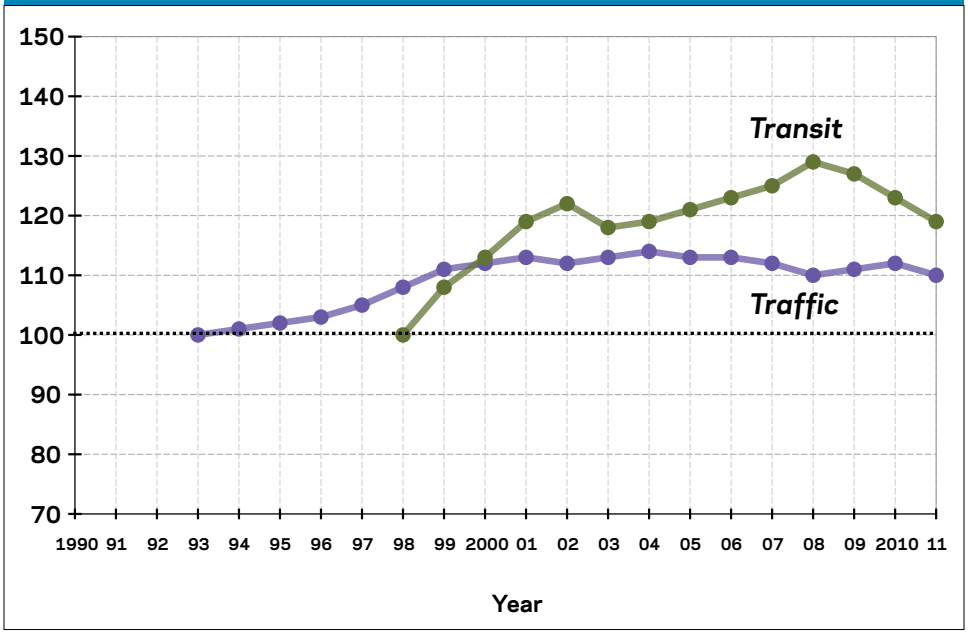
- No change in bus and subway ridership into the CBD in 2011.
- 1.7% decrease in CBD-bound vehicular traffic in 2011.
- 11.3% increase in transit ridership into the CBD since 2003.
- 6.5% decrease in CBD-bound vehicular traffic since 2003.

Transit and Traffic into the CBD
(Indexed to 1990)



- 3.6% decrease in bus ridership outside of the Manhattan CBD in 2011.
- 1.8% decrease in traffic volumes outside the Manhattan CBD in 2011.
- 0.8% increase in bus ridership outside of the Manhattan CBD since 2003.
- 3.3% decrease in traffic volumes outside of the Manhattan CBD since 2003.

Transit and Traffic Outside the CBD
(Traffic indexed to 1993/Transit indexed to 1998)

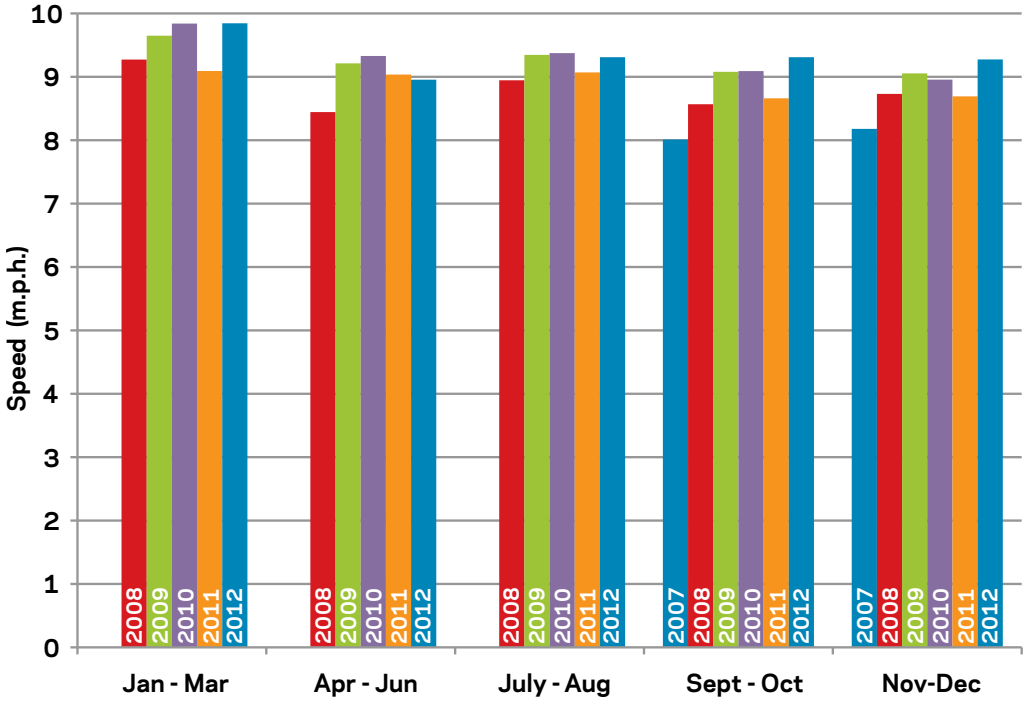


Note: Borough-level bus ridership is not available prior to 1998. Subway ridership is not shown because data for subway trips made exclusively outside the CBD cannot be separated from data for trips beginning or ending inside the CBD. Note that a large majority of subway trips that begin outside the Manhattan CBD are CBD-bound.

Manhattan Traffic Speeds

Weekday CBD Taxi Speeds from 8:00 a.m. - 6:00 p.m.

- Average taxi speeds in the Manhattan CBD were 9.3 m.p.h. in 2012, up from 8.9 m.p.h. in 2011.
- CBD speeds have increased 6.7% since 2008.

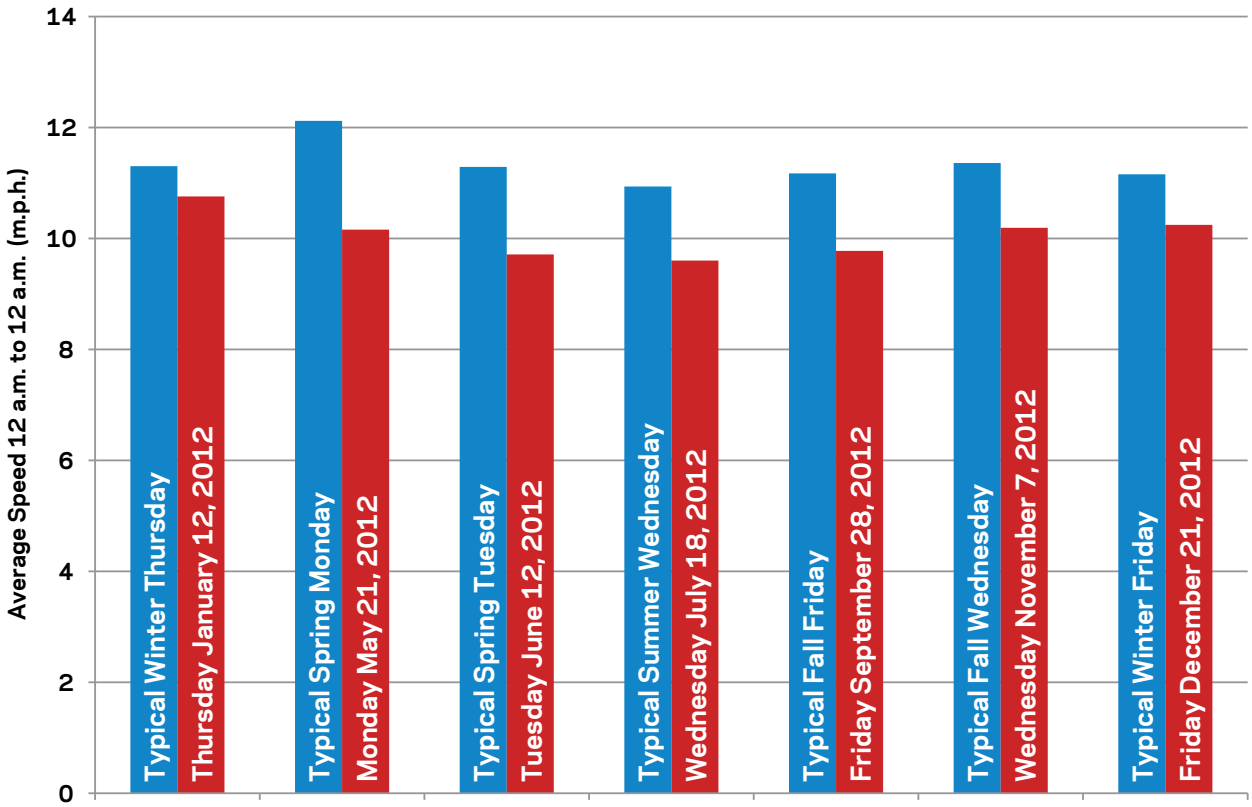


Methodology

All yellow taxicabs are equipped with GPS devices which create electronic trip sheets for all customer-carrying taxi trips 24 hours a day, seven days a week. The data includes time and location of trip origin and trip destination, time elapsed, distance traveled, and fare. The system records approximately 13 million trips per month. DOT receives the taxi GPS data from the Taxi and Limousine Commission (TLC) in order to study travel patterns and analyze vehicle traffic speeds to support agency policymaking and operations. The taxi speed data are based on the distance and duration of the entire trip for customer-carrying taxi rides within CBD. Speeds reflect both time in motion and time spent stopped in traffic or at red lights. DOT has usable data from fall 2007 to the present.

Manhattan CBD Traffic Speeds on the Seven Rainiest Days

- Overall, precipitation tends to be associated with slower Manhattan traffic. On days with at least one inch of precipitation, taxi speeds in the Manhattan CBD were, on average, 11.9% slower than days with little or no precipitation.
- The average CBD taxi speeds on days with at least one inch of precipitation was 10.1 m.p.h., compared to 11.4 m.p.h. on days with little or no precipitation.



Methodology

Data for "typical" days covers all days with recorded precipitation of less than one inch of precipitation over the 12 months ending November 30, 2012; this period was used to ensure that the seasons were complete and contiguous. Weekends, holidays and the date of Hurricane Sandy were excluded. In the remaining sample, there were seven days in which precipitation (rain or melted snowfall) exceeded one inch.

2012 Manhattan Traffic Speeds Day By Day

JANUARY						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

APRIL						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JULY						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

OCTOBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOVEMBER						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	28	28	

Fastest Day

- 2008: Sunday, June 1 (15.1 m.p.h.)
- 2009: Thursday, January 1 (13.9 m.p.h.)
- 2010: Sunday, July 4 (14.2 m.p.h.)
- 2011: Sunday, August 28 (16.3 m.p.h.)
- 2012: Tuesday, December 25 (14.8 m.p.h.)

Fastest Non-Holiday Weekday

- 2008: Friday, May 11 (12.4 m.p.h.)
- 2009: Monday, September 28 (11.9 m.p.h.)
- 2010: Monday, January 4 (11.8 m.p.h.)
- 2011: Monday, January 3 (11.6 m.p.h.)
- 2012: Sunday, February 5 (13.3 m.p.h.)

MARCH						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

SEPTEMBER						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

DECEMBER						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Slowest Day

- 2008: Wednesday, September 24 (7.0 m.p.h.)
- 2009: Monday, December 21 (8.0 m.p.h.)
- 2010: Wednesday, December 29 (6.4 m.p.h.)
- 2011: Friday, January 28 (6.9 m.p.h.)
- 2012: Tuesday, May 15 (8.3 m.p.h.)

This calendar shows average daily speeds in the Manhattan CBD, 6 a.m. to 6 p.m.

Key Findings:

- Based on Taxi GPS data, the average daily Manhattan travel speed was 10.2 miles per hour
- January had the largest number of "fastest days"
- May had the largest number of "slowest days"
- January, February, March and August were the fastest months for Manhattan traffic speeds
- May, June, July and December were the slowest months for Manhattan traffic speeds
- All national holidays were among the top 100 fastest days of the year
- Excluding days during and following Hurricane Sandy, the fastest average Manhattan travel speed was recorded on December 25th (14.8 miles per hour)

Key:

The 25 fastest days (average speed between 14.8 m.p.h. and 12.3 m.p.h.). Most occur on major holidays or on Sundays in January or July.

The next 75 fastest days (average daily speed between 12.3 m.p.h. and 11.0 m.p.h.). Most occur on weekends during spring or fall seasons, or immediately before or after holidays.

Between the 100 fastest days and 100 slowest days are the 165 days with average daily speeds between 10.9 m.p.h. and 9.5 m.p.h. Most are weekdays during the winter and spring seasons.

The next 75 slowest days (9.5 to 8.9 m.p.h.) fall into mid-week weekdays in the summer and fall seasons.

The 25 slowest days (8.9 to 8.3 m.p.h.) are concentrated in May, June and July, and in November and December.

Hurricane Sandy & Aftermath

2012 Holidays

January	New Year's Day Observed (2)
	Martin Luther King Jr. Day (16)
February	President's Day (20)
April	Easter Sunday (8)
May	Memorial Day (28)
July	Independence Day (4)
September	Labor Day (3)
October	Columbus Day (8)
November	Veteran's Day Observed (12)
	Thanksgiving (22)
December	Christmas Day (25)

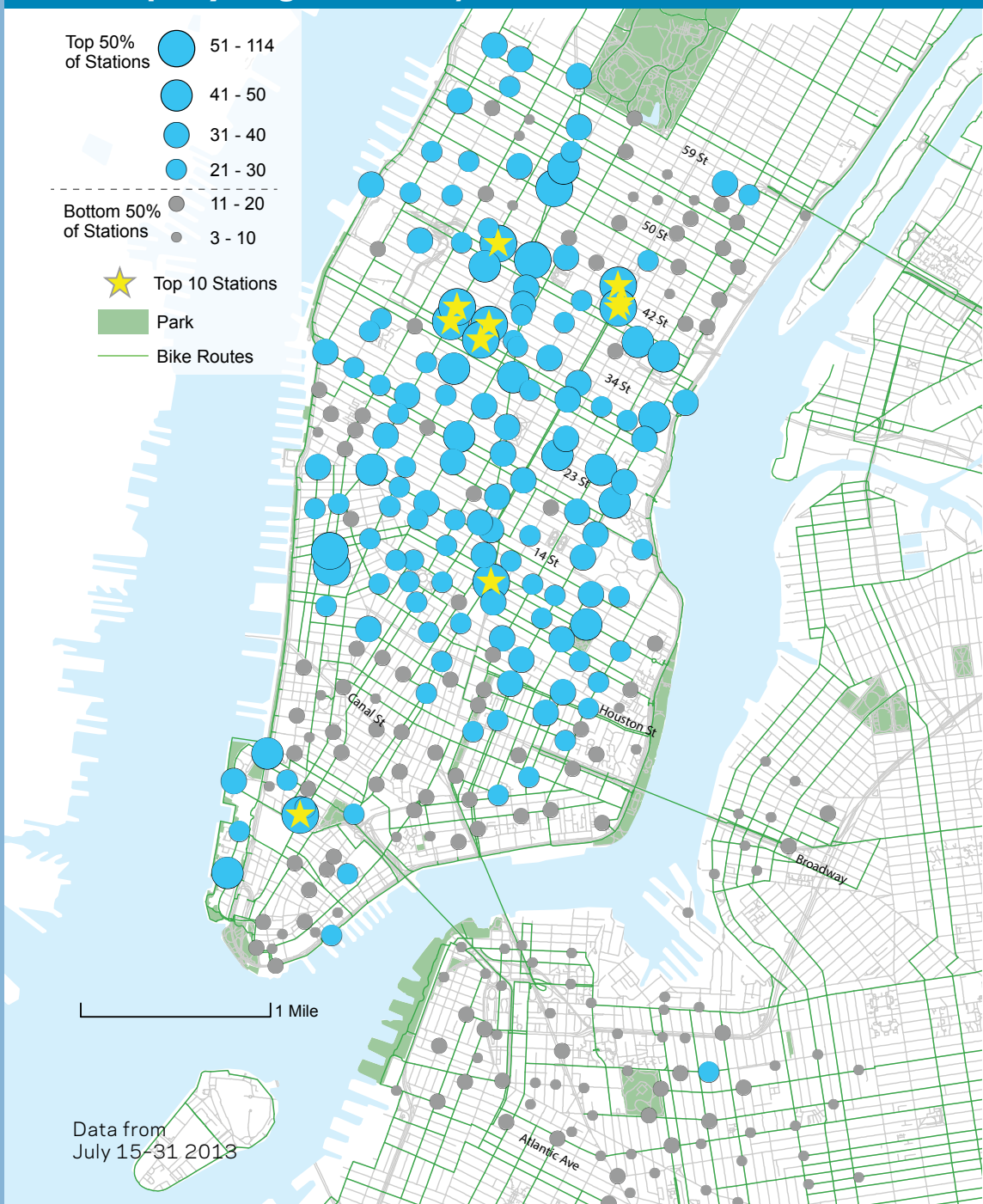
Bike Share

On May 27, 2013, New York City launched Citi Bike, the nation's largest bike share system, with 6,000 bikes available at 328 stations located in Manhattan below 59th Street and in sections of western Brooklyn.

The first three months of the program have been a resounding success. Over 75,000 New Yorkers have signed up for annual memberships. In addition, New Yorkers and visitors have bought over 180,000 24-hour or seven-day passes. In the third month of operation (July 27 to August 26), Citi Bike users logged

- **2,545,867** trips have been taken on Citi Bike as of August 26, 2013
- **5,550,424** miles have been traveled on Citi Bikes as of August 26, 2013
- **44,083** trips were taken on Citi Bikes in the **24 hours** ending as of 5 pm on August 17, the highest one day total on record.
- Planning for Citi Bike involved over **400** meetings with community boards, elected officials, civic associations, property owners, and other stakeholders.
- **65,000** location suggestions were received through the bike share website.

Total Trips by Origin, Weekdays 7-10 a.m.

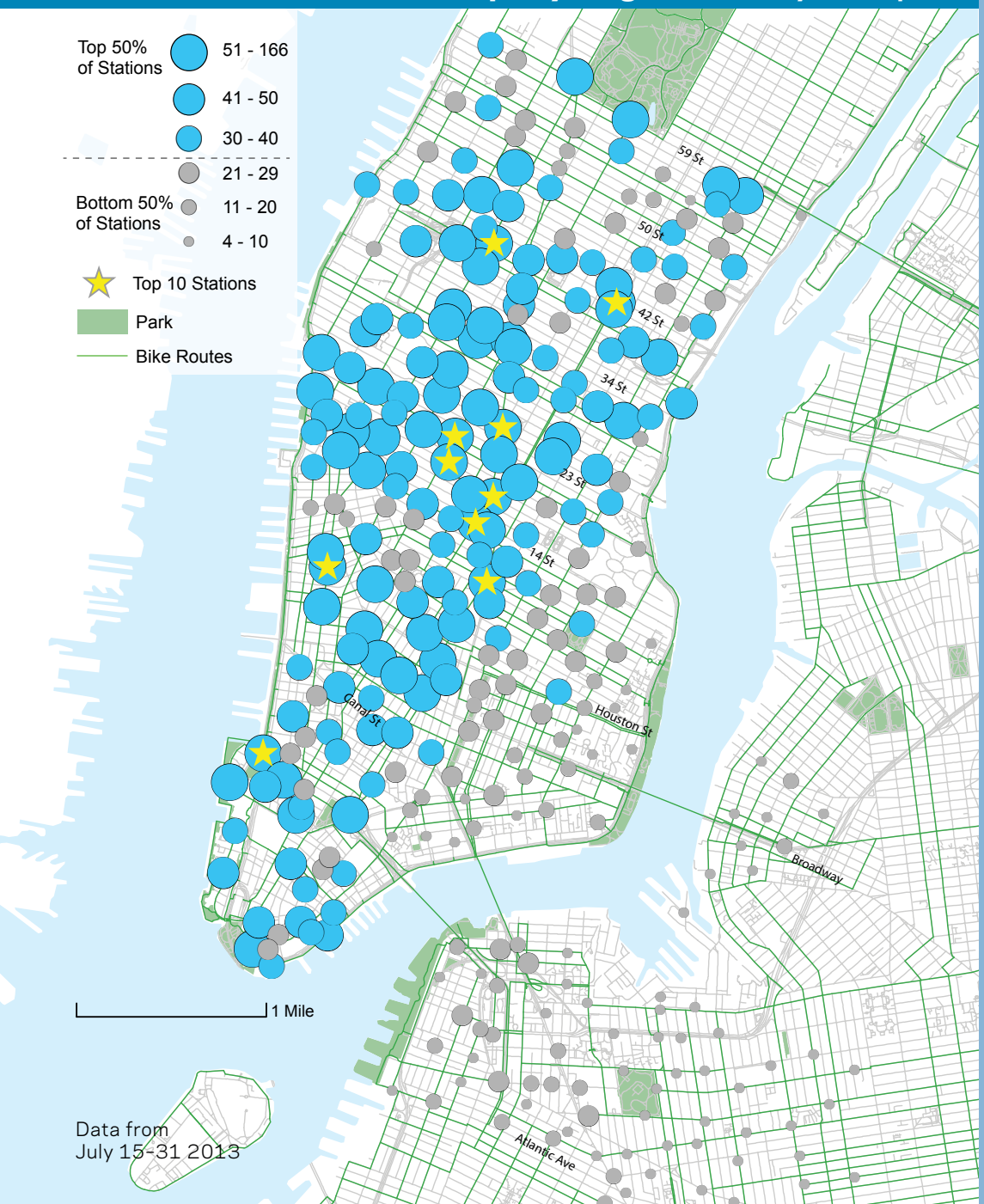


over 36,000 trips a day on average, traveling almost 70,000 miles each day. Since the program launched Citi Bike members have taken over 2.5 million trips and traveled 5.6 million miles.

New York City was well prepared for the program: DOT added over 300 miles of bike lanes over the past six years, including over 30 miles of lanes fully separated from car traffic. As a result of these efforts as well an aggressive bike safety campaign, there have been only 8 accidents involving Citi Bikers and no serious injuries.

The system is easy to use: members use electronic keys to access a bike at their origin station and then dock that bike at their destination station. Annual members can make unlimited trips up to 45 minutes with no additional cost; 24-hour and 7-day users can make unlimited trips up to 30 minutes with no additional cost. Citi Bike is funded entirely through subscription fees and a $41 million sponsorship from Citi and $6.5 million sponsorship from MasterCard. There is no City subsidy for the program.

Total Trips by Origin, Weekdays 5-8 p.m.



The **five busiest stations** in the last two weeks of July were:

- Grand Central Terminal: **479** trips per day
- East 17th Street and Broadway (Union Square): **338** trips per day
- West Street and Chambers Street: **336** trips per day
- Lafayette Street and East 8th Street (Astor Place): **296** trips per day
- West 21st Street and Sixth Avenue: **295** trips per day

Neighborhood-Wide Transportation Improvements

1. Jackson Heights
2. Downtown Flushing

Safety, Pedestrian & Bicycle Improvements

3. Seventh Avenue and West 23rd Street
4. Grand Army Plaza
5. Macombs Road
6. Harlem River Park Gateway
7. Broadway and West 230th Street
8. Broadway, Amsterdam Avenue and West 71st Street
9. Slosson Avenue/Todt Hill Road

Congestion Reduction

10. West 181st Street

Freight Movement Improvements

11. Maspeth Bypass

Project Indicators

To fulfill provisions of Local Law 23 of 2008 (Intro 199), this section reports performance indicators for major roadway projects involving "changes in street operations, such as lane reapportionments, lane reconfigurations, significant adjustments in traffic and parking regulations and changes in traffic signal timing." The performance indicators are formulated to assess the effectiveness of DOT projects in improving system performance and encouraging more sustainable means of transportation.

This section reports on ten major DOT projects that were implemented in 2011 and one (Downtown Flushing) from 2010. DOT collected before and after performance indicators for each of the 11 projects. The indicators measure safety; vehicle, cyclist, and pedestrian volumes; transit ridership; and travel times through the project area.

The 11 projects selected for evaluation reflect the multimodal character of DOT's projects. They include safety, pedestrian and bicycle improvements; transit mobility improvements; congestion reduction; and public spaces enhancements. The projects are distributed throughout the five boroughs, and reflect a range of neighborhood conditions, from the busy commercial streets of Downtown Flushing to the residential and industrial areas of Maspeth. Reflecting the unique needs of each community and its streets, the projects used a range of design strategies to accomplish their goals, and a range of metrics to measure their performance. In addition to their basis in rigorous, data-driven research and engineering, these projects are also informed by DOT's commitment to community engagement.

Highlights from the project performance indicators include:

- Developed with a diverse coalition of community partners, DOT's improvements to Brooklyn's Grand Army Plaza have reconnected a landmark public space with its neighbors while making this complex intersection safer for everyone – crashes with injuries are down 25% since the project was completed.
- By installing new medians and pedestrian spaces on Macombs Road, DOT helped to reduce the number of crashes with injuries by 35%, making this Bronx street safer for the families living there.
- At the gateway to New York City's newest waterfront open space – Harlem River Park – a combination of pedestrian safety treatments and greenstreets has made the shoreline more accessible in an area where parks are scarce. In addition, the streets are now safer for pedestrians and drivers alike, with injury crashes declining 27%.

Jackson Heights

In 2011, DOT carried out a comprehensive set of improvements in the heart of Jackson Heights, the culmination of a community-driven planning process that started in 2009, funded in part by Congressman Joseph Crowley. Local residents, business owners and civic leaders worked with DOT to identify their most pressing concerns and guide the development of solutions. DOT created a range of opportunities for public participation, including community workshops, neighborhood walk-throughs, an innovative web portal that allowed DOT staff to receive and respond to comments at any time, and a Community Advisory Committee to facilitate ongoing involvement of key stakeholders.

The project addressed traffic safety, sidewalk crowding, vehicle congestion, parking availability, slow bus service and a lack of public open space. Focused on the area where 73rd Street, 37th Road, Broadway and Roosevelt Avenue converge, the core improvements were carried out in the second half of 2011. Updated curb regulations were introduced in spring 2012, offering a better use of space for deliveries and customer parking. Further

Community-driven plan produced improved safety, less congestion, faster bus travel, and a vibrant and popular plaza.

37th Road Plaza viewed from the West

parking improvements were implemented in 2013 with the introduction of the variable-rate PARK Smart program.

There are fewer injury-causing crashes; problematic traffic bottlenecks have been eliminated; buses are faster and more efficient; and the 37th Road plaza is a popular gathering spot year-round, home to frequent public events and a boon to adjacent businesses.

- Total crashes with injuries declined **26%**
- Traffic queues decreased up to **75%**
- Southbound travel time on 75th Street decreased by **25%** during the morning peak and **13%** in the evening
- Traffic is moving faster in both directions on Broadway (**8.5%** eastbound; **41%** westbound)
- Q47 bus speeds increased up to **25%**
- Key crosswalks widened from **12** to **40** feet

Vehicle Travel Times Before/After Improvements

			Time (Mins)		
Street	**From**	**To**	**Before**	**After**	**Change**
73rd St SB	35th Ave	Broadway	2.5	2.2	-12%
74th St NB	37th Road	35th Ave	1.7	2.6	53%
76th St SB	35th Ave	41st Ave	5.6	3	-46%
81st St NB	41st Ave	35th Ave	3.9	2.9	-26%
82nd St SB	35th Ave	41st Ave	5	3.3	-34%
Broadway EB	BQE	Baxter Ave	5.4	5	-7%
Broadway WB	Baxter Ave	BQE	6	3.8	-37%
Roosevelt Ave EB	BQE	82nd St	3.8	4.8	26%
Roosevelt Ave WB	82nd St	BQE	3.4	4.6	35%

Crashes with Injuries
73rd Street / 37 Road / Broadway, 74th Street / Roosevelt Avenue, 74th Street / 37 Road, 73rd Street / Broadway

	Before* (three previous years)			After
Total Crashes with Injuries	12	17	17	11.4
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	4	5	3	3.8
Pedestrians	5	8	12	5.1
Bicyclists	3	4	2	2.5

*Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through May 2013) at annual rate. See page 46 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

Downtown Flushing

Downtown Flushing is a thriving community with a dense concentration of businesses and residents. The area serves as one of the largest intermodal transportation hubs in New York City with the 7 train, the Long Island Rail Road, 20 bus routes, and commuter vans all converging in the downtown. Sidewalks and roadways are congested. Pedestrian traffic regularly spills into the street in many areas, disrupting traffic and posing safety risks. Of particular concern was the intersection of Union Street and Northern Boulevard, which had the greatest number of crashes with pedestrian injuries in the entire borough.

To ease congestion and improve safety in Downtown Flushing, DOT worked with Community Board 7, local

Facing north on Main Street at Roosevelt Avenue

business owners and elected officials to analyze and discuss several options to improve pedestrian and traffic safety and reduce congestion. The MTA and NYCEDC were also important partners in the study.

- Total crashes with injuries down **10%**
- Crashes with injuries to vehicle occupants down **26%**
- Crashes with injuries to bicyclists down **31%**
- Travel times along the eastbound and westbound Northern Boulevard decreased by **16%** and **15%** in the PM peak hour, respectively, and **34%** and **37%** in the Saturday Midday peak hour

Change in Travel Time
Northern Boulevard (Eastbound)

Time Period	Overall Travel Time Reduction
Weekday Morning Peak Hour	-7%
Weekday Midday Peak Hour	-5%
Weekday Evening Peak Hour	-16%
Saturday Midday Peak Hour	-34%

Crashes with Injuries
Northern Boulevard from Prince Street to Bowne Street, Main Street from Northern Boulevard to 41st Avenue, Union Street at 35th Avenue, Union Street at Roosevelt Avenue

	Before* (three previous years)			After
Total Crashes with Injuries	58	74	84	64.9
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	20	25	31	18.7
Pedestrians	35	43	45	42.4
Bicyclists	3	6	8	3.9

*Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through May 2013) at annual rate. See page 46 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

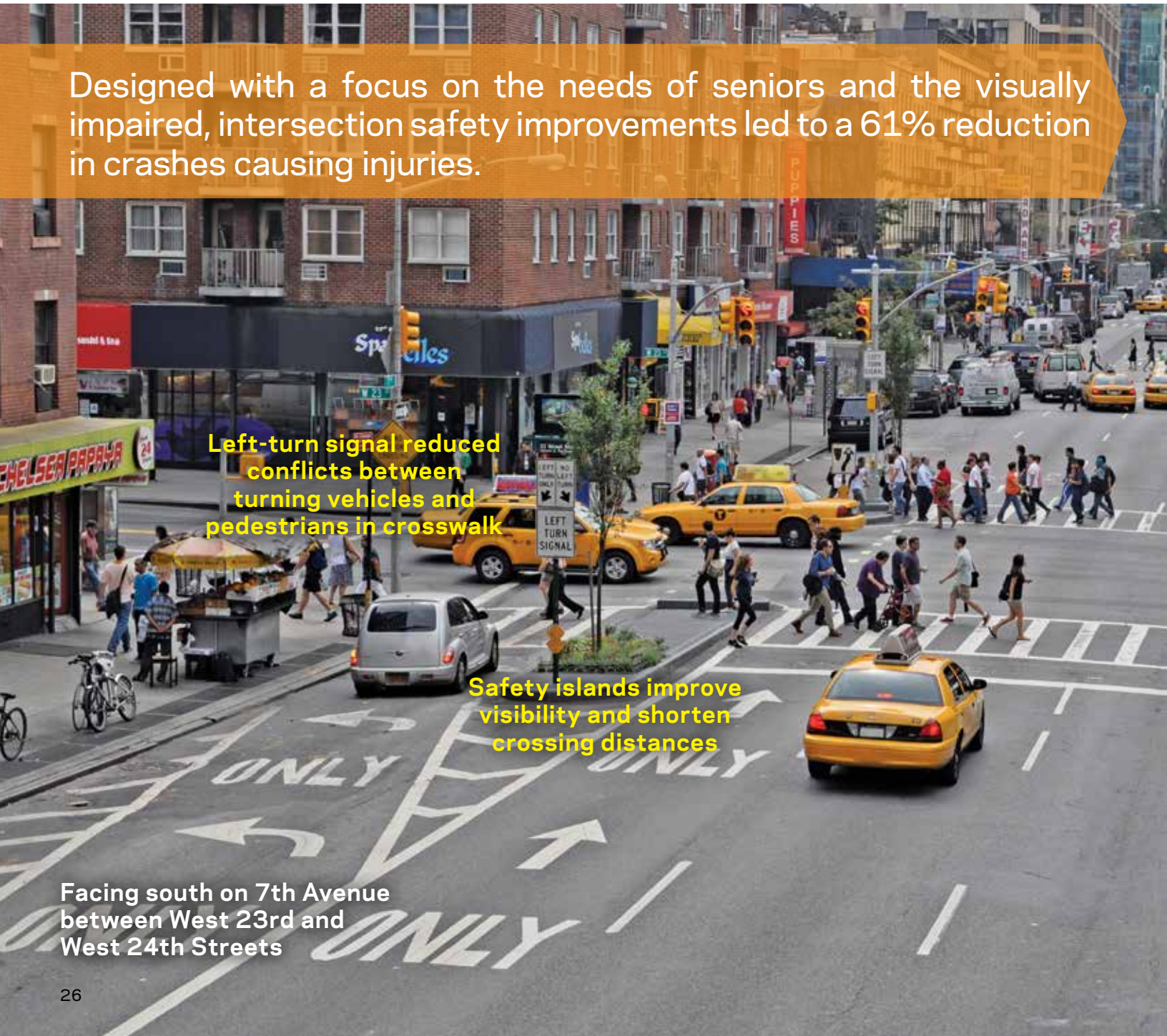
Seventh Avenue at West 23rd Street

The intersection of Seventh Avenue and West 23rd Street has had one of the city's highest rates of crashes involving pedestrians, including many senior citizens. Truck traffic, critical to businesses in Chelsea and the Fashion District, is heavy in the area. West 23rd Street and Seventh Avenue also have heavy pedestrian volumes and traffic signals allowed turning drivers and pedestrians to proceed simultaneously.

As part of the Safe Streets for Seniors program, DOT worked with Manhattan Community Board 4 and other community stakeholders to develop a set of safety improvements. Of specific concern were visually impaired pedestrians accessing the nearby VISIONS service organization. DOT worked with VISIONS staff and clients to ensure that their needs were met.

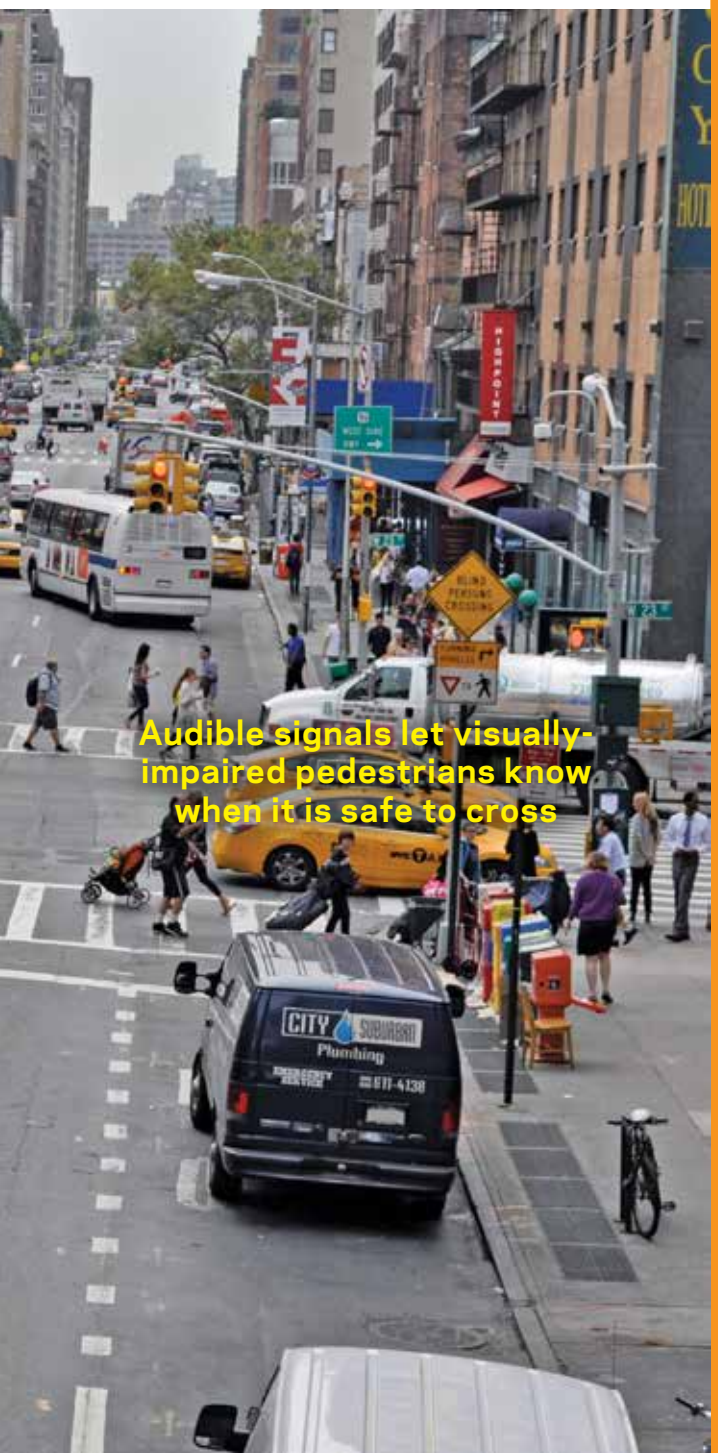
In the completed project, DOT installed two planted pedestrian safety islands on Seventh Avenue, increasing the visibility of pedestrians and shortening crossing distances. To reduce potential conflicts between pedestrians and turning vehicles, a left turn lane was placed

Designed with a focus on the needs of seniors and the visually impaired, intersection safety improvements led to a 61% reduction in crashes causing injuries.



Facing south on 7th Avenue between West 23rd and West 24th Streets

between the island and the curb. Left turns were prohibited altogether from 23rd Street (westbound) to Seventh Avenue (southbound), eliminating the simultaneous conflicts of crossing pedestrians and oncoming traffic. To help people with visual impairments, DOT also installed Audible Pedestrian Signals (APS) at all four corners, and worked with stakeholders in the community to select the audio cues.



Audible signals let visually-impaired pedestrians know when it is safe to cross

- Total crashes with injuries down **61%** [statistically significant]
- Crashes with injuries to vehicle occupants down **77%** [statistically significant]
- Crashes with injuries to pedestrians down **68%**
- The average delay for a vehicle to clear the intersection declined by **7 seconds**

Average Vehicular Delay (seconds)

Location	Before	After
23rd Street Eastbound	41.5	34.0
23rd Street Westbound	23.5	31.4
7th Avenue Southbound	22.1	11.9
Overall Intersection	28.0	20.9

Crashes with Injuries
7th Avenue at West 23rd Street

	Before* (three previous years)			After
Total Crashes with Injuries	10	15	10	4.5
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	4	5	4	1
Pedestrians	5	9	5	2
Bicyclists	1	1	1	1.5

*Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through May 2013) at annual rate. See page 46 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

Grand Army Plaza

With the Soldiers' & Sailors' Memorial Arch at its heart, Grand Army Plaza was intended to be a gracious hub to the historic neighborhoods and public spaces that surround it. As traffic increased, however, the center of the plaza became cut off from Prospect Park and largely inaccessible to pedestrians. In 2006, a diverse coalition of local stakeholders formed the Grand Army Plaza Coalition (GAPCo) in order to develop a new vision for the landmark space and advocate for implementation. Since that time, DOT has worked with GAPCo and its partners to improve the public space while ensuring safety and efficiency for all users. In 2007, DOT installed pedestrian connections between the Arch, Prospect Park and Eastern Parkway. In 2011, DOT built on these improvements by comprehensively redesigning Grand Army Plaza pedestrian connections and traffic circulation. The design includes additional crosswalks to provide new and shorter crossings and

Facing Grand Army Plaza from the northwest on Flatbush Avenue

bike connections, pedestrian safety islands and a new traffic signal to eliminate a difficult merge on the west side of the plaza. In addition to reducing conflicts among street users, the project redefined the center of the Plaza, inviting people to walk through the Arch rather than detour around a whirl of traffic.

Eliminated traffic conflicts at Flatbush Avenue merge

- Total crashes with injuries down **19%**
- Crashes with injuries to vehicle occupants down **25%**
- Crashes with injuries to pedestrians down **17%**
- **53%** increase in foot traffic through the center of the Plaza on weekday evenings

Facing north on Grand Army Plaza at Flatbush Avenue

Crashes with Injuries
Grand Army Plaza

	Before* (three previous years)			After
Total Crashes with Injuries	27	26	31	22.7
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	22	22	24	17.1
Pedestrians	5	2	2	2.5
Bicyclists	1	2	5	3.2

*Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through May 2013) at annual rate. See page 46 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

Macombs Road

Crash rates on Macombs Road had been among the highest in the Bronx. From 2006 to 2010, 112 people were injured on this short (0.62 mi) corridor and one pedestrian was killed. Following community reports of frequent speeding, DOT's investigation found up to 70% of drivers exceeding the speed limit on an average weekday.

To combat dangerous driving, DOT worked with the community to redesign the street to reflect its proper context: a residential street with relatively low traffic volumes. Through a combination of road markings and median islands, DOT narrowed travel lanes to discourage speeding and weaving. DOT also reconfigured several intersections to prevent high-speed turns and reduce the crossing distance for pedestrians. DOT also worked with NYC Parks & Recreation to plant trees in the newly expanded pedestrian areas. As a result of these improvements, the total number of crashes with injuries has declined

Traffic calming measures led to a reduction in crashes with injuries and improved the pedestrian environment on this West Bronx corridor.

Facing north on Macombs Road at Cromwell Avenue

35%; the incidence of crashes with injuries to pedestrians is down 43%. In the coming year, additional safety improvements will be installed at the intersection of Macombs and University Avenue.

- Total crashes with injuries down **35%**
- Crashes with injuries to vehicle occupants down **25%**
- Crashes with injuries to pedestrians down **43%**
- Crossing distance shortened from **140** feet to **44** feet at Cromwell Avenue and Macombs Road

Facing south on Macombs Road at Cromwell Avenue

Crashes with Injuries
Macombs Road between University Avenue and Jerome Avenue

	Before* (three previous years)			After
Total Crashes with Injuries	13	22	13	10.4
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	10	8	6	6
Pedestrians	3	13	7	4.4
Bicyclists	1	1	0	0

*Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through May 2013) at annual rate. See page 46 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

Harlem River Park Gateway

Harlem River Park has become the city's latest successful waterfront park. Although there are pedestrian overpasses over the Harlem River Drive, it can be difficult for pedestrians and cyclists to reach these park access points.

To improve the connection between the park and surrounding neighborhoods, DOT worked with the Department of Parks and Recreation and community groups on enhancements to the pedestrian approaches to the overpasses at four locations:

- East 135th Street and Madison Avenue;
- East 138th Street and Fifth Avenue;
- East 139th Street and Fifth Avenue; and
- 142nd Street and Fifth Avenue.

Redesigned intersections in upper Manhattan helped to connect residents with a major new park and improved safety for all street users.

Facing east on East 135th Street at Madison Avenue

The final plans included new pedestrians safety islands, sidewalk extensions, new crosswalks and expanded Greenstreet areas.

- Total crashes with injuries down **27%**
- Crashes with injuries to vehicle occupants down **41%** [statistically significant]
- Crashes with injuries to pedestrians down **15%**
- **2,405** square feet of new pedestrian space
- **25%** more green signal time for Madison Avenue motorists

Facing north on Fifth Avenue south of 142nd Street / Harlem River Drive

Crashes with Injuries
5th Avenue from 135 Street to 142 Street
Madison Avenue from 135 Street to 138 Street

	Before* (three previous years)			After
Total Crashes with Injuries	28	22	22	17.5
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	15	16	13	8.7
Pedestrians	10	5	8	6.5
Bicyclists	3	1	1	2.2

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Broadway and West 230th Street

Bronx Community Board 8 asked DOT to develop a plan to enhance safety at Broadway and West 230th Street in Kingsbridge. Identified as an accident prone location by the NYPD, this intersection had long crosswalks and multiple conflicts between motor vehicles and pedestrians. The steel columns supporting the elevated #1 train on Broadway further complicated the intersection.

DOT installed new pedestrian safety islands, creating safe pedestrian space and shorter crossing distances. In conjunction with new roadway markings, the islands also served to calm traffic and clarify the intersection for drivers. Traffic signals now include a "Barnes' Dance" during which all vehicles are stopped at red lights while pedestrians are allowed to cross. This approach eliminates conflicts between pedestrians and turning vehicles.

Pedestrian safety islands and shorter crosswalks made crossing the street safer and easier, especially for seniors and children.

New markings and signs improve the safe flow of traffic through the intersection

Facing east on West 230th Street at Broadway

- Community Board 8 requested safety improvements at this location with high volumes of pedestrians, especially children and seniors
- Crossing distance reduced by **79 feet**
- Total crashes with injuries decreased **49%**
- Crashes with injuries to vehicle occupants decreased **75%** [statistically significant]
- **No change** in vehicle volumes after the improvements were implemented

Facing east on West 230th Street at Broadway

Crashes with Injuries
Broadway at West 230th Street

	Before* (three previous years)			After
Total Crashes with Injuries	26	24	12	10.6
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	20	14	8	3.5
Pedestrians	4	10	4	6.4
Bicyclists	2	0	0	1.4

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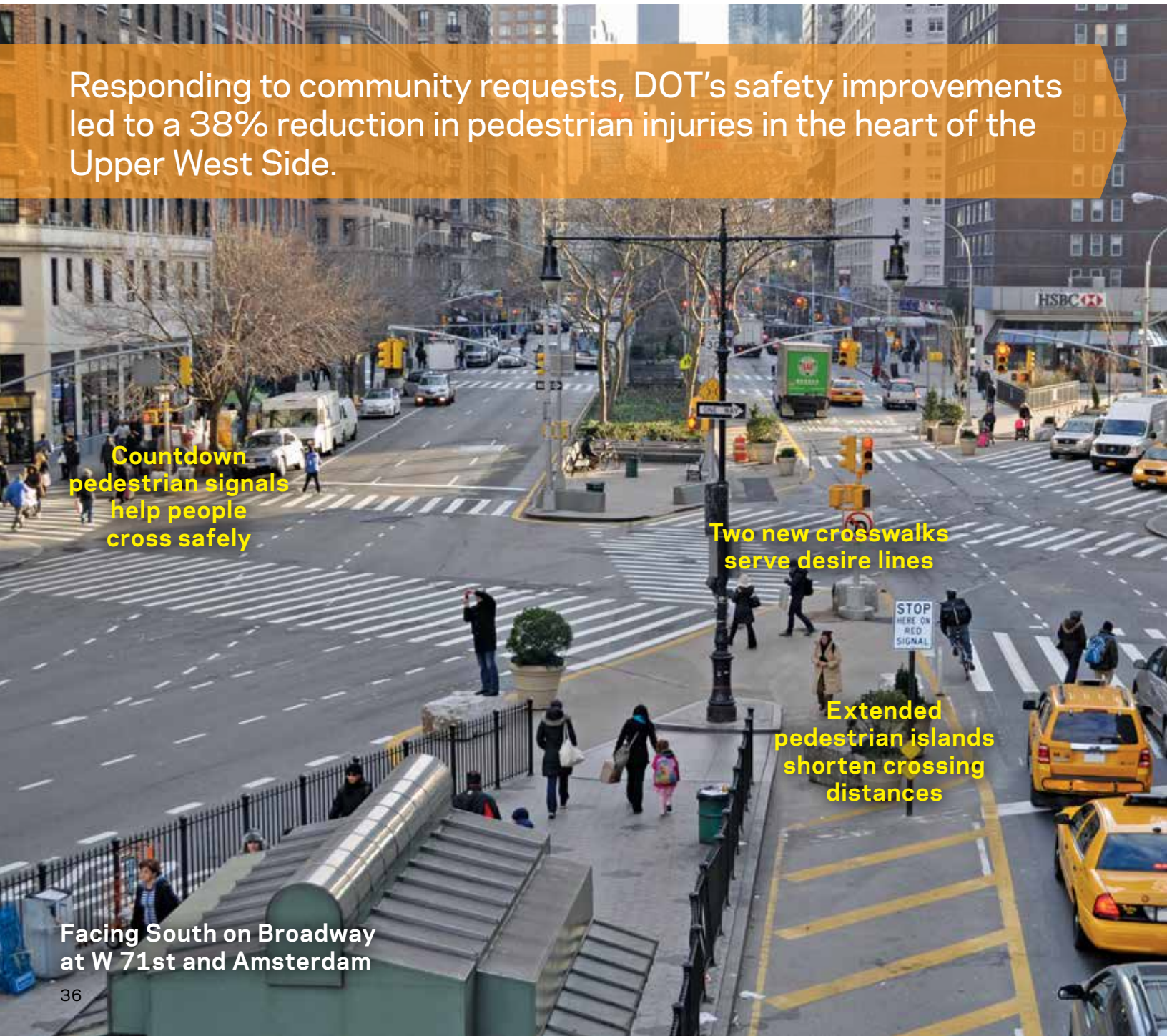
Broadway at West 71st Street and Amsterdam Avenue

Local officials and members of the community asked DOT to improve pedestrian safety at this busy Upper West Side crossroads. Its complex 6-legged geometry creates challenges for pedestrians, drivers and cyclists alike. Another factor is the 72nd Street subway station, which draws significant pedestrian traffic right to the center of the intersection. To help relieve pedestrian overcrowding on the medians, DOT created extensions with markings and granite blocks. In addition to providing more pedestrian space, these areas increase people's visibility to traffic and reduce crossing distances. DOT also added two new crosswalks at major pedestrian "desire lines" – routes that had not been designated crossings but which many people used nonetheless. One of these desire lines runs through the center of

Responding to community requests, DOT's safety improvements led to a 38% reduction in pedestrian injuries in the heart of the Upper West Side.



Countdown pedestrian signals help people cross safely

Two new crosswalks serve desire lines

Extended pedestrian islands shorten crossing distances

Facing South on Broadway at W 71st and Amsterdam

the intersection, connecting the subway station with the Broadway Mall to the south. By improving pedestrian access and providing a buffer against passing traffic, DOT's project strengthens the 71st Street Greenstreets and Broadway Malls as functional public spaces.

- Safety enhancements requested by Manhattan Borough President Scott Stringer, Assembly Member Linda Rosenthal, Community Board 7 and other community groups.
- **3,000 sq ft** of new pedestrian space
- Crossing distance reduced by **27%**
- Crashes with injuries declined **8%**
- No significant impact on vehicle travel times

Vehicle Travel Times
Before and After Improvements

	Before	After	% Change
W 66th St to W 75th St via Amsterdam Ave & W 75th to W 66th St via Broadway	7:46	7:29	-4%
W 66th St to W 75th St via Broadway/ Amsterdam Ave & W 75th to W 66th St via Broadway/ Amsterdam	7:20	7:26	+1%

Crashes with Injuries
Broadway/Amsterdam/W71

	Before* (three previous years)			After
Total Crashes with Injuries	7	5	1	4
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	0	1	0	0.7
Pedestrians	4	3	1	2
Bicyclists	4	1	0	1.3

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Slosson Avenue/Todt Hill Road

In the wake of several high-profile crashes, Staten Island Borough President James Molinaro asked DOT to find ways to improve safety on this Mid-Island corridor. To address frequent speeding, DOT redesigned the roadway with narrower moving lanes and a wide striped median, a proven design technique that guides motorists to drive at an appropriate speed. The new layout also includes new left-turn bays, improving traffic flow at key intersections. DOT paid special attention to the safety needs of the area's schoolchildren. New crosswalk markings and pedestrian-focused signal timing were developed in discussions with stakeholders at local schools. To provide additional protection at certain locations,

New roadway markings made travel lanes slimmer and more visible, leading to a dramatic reduction in speeding and crashes.

Facing south on Slosson Avenue at Todt Hill Road

DOT also installed guardrails at the road edge to prevent road departure crashes. DOT analyzed traffic and crash data before and after implementation and found that speeding decreased 55% while crashes declined by 30%.

- Safety improvements requested by Borough President, community groups and local schools after several high profile crashes
- Prior to improvements, crash rate was in the **95th percentile** for corridors in Staten Island
- Continuation of successful **traffic calming** measures previously installed on Slosson Avenue between Victory Blvd and Lightner Ave
- **55%** decrease in speeding
- **Reduced delays** at entrance to Staten Island Expressway

Crashes with Injuries along Todt Hill Road
Lighting Avenue to Tillman Street

	Before	After	% Change
Slosson Av N/B from Windsor Rd to Victory Blvd	11%	7%	-36%
Slosson Av S/B from Windsor Rd to Victory Blvd	22%	3%	-86%
Todt Hill Rd N/B from Fine Blvd to Valleyview Pl	51%	20%	-61%
Todt Hill Rd S/B from Fine Blvd to Valleyview Pl	72%	29%	-60%
Todt Hill Rd N/B from Tillman St to Lincoln St	88%	54%	-39%
Todt Hill Rd S/B from Tillman St to Lincoln St	78%	41%	-47%
Average			-55%

Crashes with Injuries along
Slosson Avenue from Lightner Avenue to Todt Hill Road
Todt Hill Road from Slosson Avenue to Tillman Street

	Before* (three previous years)			After
Total Crashes with Injuries	2	4	3	3.8
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	2	4	3	3.8
Pedestrians	0	0	0	0
Bicyclists	0	0	0	0

*Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through May 2013) at annual rate. See page 46 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

West 181st Street

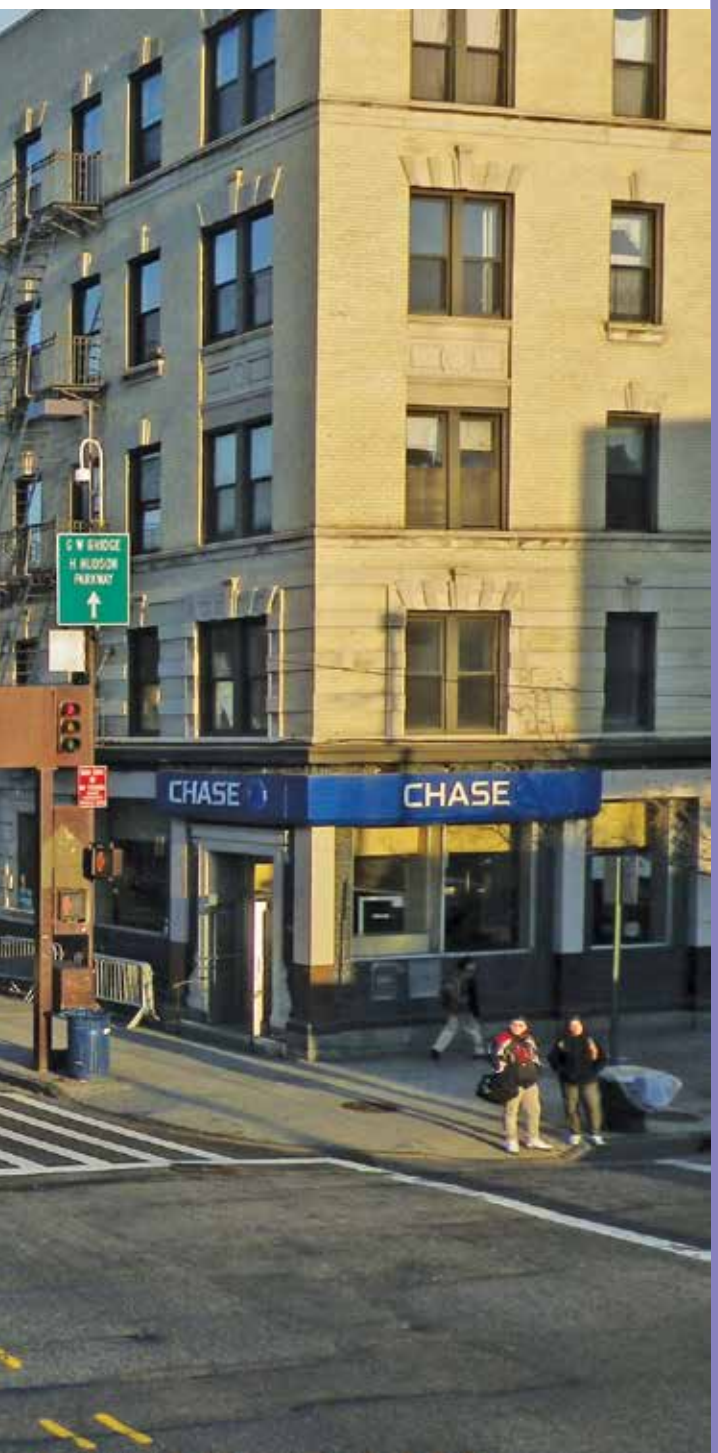
West 181st Street is a neighborhood retail corridor in the heart of Washington Heights. It is also a crosstown street connecting Manhattan and the Bronx that carries significant through traffic, including drivers hoping to avoid back-ups on the Cross Bronx Expressway and highway approaches to the George Washington Bridge.

When West 181st Street is gridlocked, no one benefits – least of all the residents of Washington Heights. DOT worked with a Citizens Advisory Committee made up of residents, corridor businesses and local leaders to develop a plan that considers the unique needs of each block of 181st Street. The implemented plan includes

This street redesign reduced gridlock while improving traffic safety on a "Main Street" in Washington Heights.

Facing west on West 181st Street at St. Nicholas Avenue

new turn restrictions, turn bays, signal timing, bus lanes, and delivery windows for commercial vehicles. The cumulative impact of these elements has been a dramatic improvement in both traffic flow and safety.



- **20-40%** shorter travel times in both directions
- Total crashes with injuries down **19%** [statistically significant]
- Crashes with injuries to vehicle occupants down **41%**
- Crashes with injuries to pedestrians down **56%** [statistically significant]

West 181st Street Travel Times

	Time	Before	After	% Change
Eastbound	AM Peak	8.23	5.63	-32%
	Midday	9.41	6.11	-35%
	PM Peak	12.89	8.14	-37%
	Saturday Peak	12.43	7.49	-40%
Westbound	AM Peak	5.59	4.48	-20%
	Midday	6.97	4.99	-28%
	PM Peak	7.15	5.24	-27%
	Saturday Peak	9.88	6.18	-37%

Crashes with Injuries
West 181st Street from Riverside Drive to Amsterdam Avenue

	Before* (three previous years)			After
Total Crashes with Injuries	88	108	96	38.8
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	47	60	60	21.9
Pedestrians	40	42	32	14.8
Bicyclists	2	8	5	2.1

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Maspeth Bypass

Trucks are critical to the economic life of the city, especially in industrial areas like the Maspeth Industrial Business Zone (IBZ) in Queens. However, the IBZ is adjacent to residential neighborhoods where heavy truck traffic impairs quality of life.

Prior to 2011, Grand and Flushing Avenues were designated as through truck routes between the Queens-Midtown Expressway/Long Island Expressway (LIE) and the Brooklyn line. While this routing provided a connection from LIE to the IBZ along Newtown Creek, it channeled regional truck traffic through the heart of residential Maspeth. In response to requests from the community and elected officials, DOT assessed alternative routes that could be less disruptive to residents while serving the needs of truckers and local businesses, and led an in-depth outreach program with all stakeholder groups.

The resulting plan shifts truck traffic from Grand and Flushing Avenues to a preferred bypass route that connects to the LIE without passing through residential Maspeth. DOT also made changes to the street network to ensure that the Maspeth Bypass was as direct and convenient as possible so that truckers would make the

DOT redesigned streets and legal truck routes in Maspeth to direct trucks away from residential streets while maintaining truck access to important industries.

Aerial view of improvements at intersection of Maspeth Avenue / Maurice Avenue / 58th Street / 56th Terrace

switch. DOT reconfigured the multi-legged intersection of Maspeth Avenue and Maurice Avenue to safely accommodate truck through movements and turns, and converted several streets to one-way operation.

In addition to helping traffic flow at a key point in the Bypass, the improvements have led to a 59% decrease in reported vehicle crashes.

- **20%** decrease in peak-hour truck traffic on residential Grand Avenue
- Ongoing DOT monitoring and NYPD enforcement
- **32%** increase in peak-hour truck traffic using Maspeth Bypass route

Truck Volumes on Maspeth Bypass Before and After Improvements

	Before	After	Change
AM Peak	350	487	39%
Midday Peak	315	409	30%
PM Peak	172	213	24%
All Peak Periods	837	1109	32%

Truck Volumes on Grand Avenue Before and After Implementation

	Before	After	Change
AM Peak	463	346	-25%
Midday Peak	387	304	-21%
PM Peak	170	164	-4%
All Peak Periods	1020	814	-20%

Crashes with Injuries
Maspeth Avenue / Maurice Avenue / 58th Street / 56th Terrace, 57th Place / Maspeth Avenue, 56th Terrace / Rust Street

	Before* (three previous years)			After
Total Crashes with Injuries	5	4	3	6
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	3	2	3	4
Pedestrians	1	2	0	2
Bicyclists	1	0	0	0

*Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through May 2013) at annual rate. See page 46 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

Citywide trends
(All data in thousands)

Year	New York City population*	New York City employment	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	3,708	4,468	7,419
2011	8,245	3,798	4,388	7,450

* 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 and buses, MTA Bus Co. local routes, and privately operated local buses

Travel into the CBD
(All data in thousands)

Year	Ferry ridership in NYC	Daily vehicles entering the CBD	Daily transit riders entering the CBD	CBD commuter cycling*
1990	87	760	2,174	3.3
1991	84	759	2,154	3.6
1992	81	776	2,127	4.3
1993	81	761	2,157	4.5
1994	82	754	2,206	4.9
1995	82	771	2,210	5.2
1996	84	782	2,237	5.6
1997	84	814	2,249	5.2
1998	85	842	2,294	5.1
1999	103	843	2,431	4.7
2000	85	831	2,517	4.8
2001	n/a	696	2,390	4.9
2002	129	792	2,441	6.0
2003	119	817	2,392	6.9
2004	102	822	2,454	7.4
2005	100	805	2,472	7.7
2006	97	801	2,566	8.4
2007	101	791	2,683	9.3
2008	105	756	2,743	12.3
2009	105	771	2,586	15.5
2010	110	778	2,662	17.5
2011	115**	764	2,662	18.8

* This figure is for cyclists entering and leaving the Manhattan core at the East River bridges, Hudson River Greenway at 50th St., and on the Staten Island Ferry, weekdays 7 a.m.–7 p.m. The values for 1990–2006 are based on a three year rolling average; the value for 2007 is the average of 3 counts taken in May, August and September of that year; the values for 2008 and 2009 are the average of 10 counts taken between April and October.
** Based on both NYMTC Hub Bound Report and Mayor's Management Report data.

Daily vehicle traffic into the CBD, by sector of entry
(All data in thousands)

Year	New Jersey	60th Street	Queens	Brooklyn
1990	101	349	104	206
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	375	119	182
1997	107	377	131	199
1998	109	389	138	206
1999	112	393	135	203
2000	112	387	131	201
2001	67	369	127	133
2002	104	377	133	178
2003	110	383	139	185
2004	110	384	133	195
2005	108	377	133	187
2006	110	364	141	186
2007	110	353	136	192
2008	103	341	132	180
2009	104	346	138	183
2010	105	351	135	187
2011	100	349	138	177

Daily transit riders into the CBD, by sector of entry
(All data in thousands)

Year	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

Travel outside the CBD
(All data in thousands)

Year	Daily vehicle traffic outside the CBD *	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	2,262
2009	3,657	2,218
2010	3,690	2,154
2011	3,624	2,077

* 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 Co., and private operators. During years for which complete data are only available for NYCT local routes (2002-2005), private and MTA Bus Co. 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	970	545	289	195

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

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	130	567	725	740	100
2009	128	558	710	723	98
2010	126	545	707	683	94
2011	121	520	695	652	90

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

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-New Jersey	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

Appendix: Methodology for Crash Data

Crash (accident) data reported in the Project Indicators section is derived from accident reports filed with NYPD. Accident reports are primarily completed by police officers at the scene although they may also be filed by private citizens, generally those involved in the accident. Information from crash reports is entered into an NYPD database. The NYPD database includes the location, time, and number of injuries in all crashes reported to the NYPD. No distinctions of severity are made among the reported injuries. "Non-reportable" crashes, which by definition involve no personal injuries and property damage of less than $1,000, are not included in the NYPD database. There is also no distinction between intersection and midblock crashes, so data on all the crashes along a corridor may include midblock crashes on the adjacent perpendicular blocks, thereby slightly overestimating the total number of crashes on the corridor. Before-and-after analyses of NYPD crash data is considered reliable since the same methodology is used for all data.

The tables in the Project Indicators section show the number of crashes in each of the three years prior to project implementation and after implementation. The "after" data is generally for 12 to 18 months, through May 2013. "After" data is reported at an annual rate.

In analyzing crash data, DOT took account of the annual variability in crashes over the 10 years prior to project implementation, and trends in the number of crashes citywide. The result of the analysis shows whether differences between the pre- and post-implementation crash rates are statistically significant, using a 90% level of confidence. The text notes where statistically significant changes occur.

The analysis of crash data comprises an initial assessment of project impacts. A more definitive analysis requires several years of post-implementation data to determine whether a significant change in the crash rate occurred after implementation. Note that in many cases, the post-implementation rate based on about one year of data is not statistically significant, but would be statistically significant if the post-implementation crash rate is sustained over several years.

List of Abbreviations

APS	Audible Pedestrian Signal
BID	Business Improvement District
BQE	Brooklyn-Queens Expressway (I-278)
CAC	Community Advisory Committee
CB	Community Board
CBD	Central Business District
DOT	New York City Department of Transportation
DPR	New York City Department of Parks & Recreation
DSNY	New York City Department of Sanitation
EDC	New York City Economic Development Corporation
GAPCo	Grand Army Plaza Coalition
GPS	Global Positioning System
IBZ	Industrial Business Zone
LIE	Long Island Expressway (I-495)
MTA	Metropolitan Transportation Authority
NYCT	New York City Transit
NYMTC	New York Metropolitan Transportation Council
NYPD	New York City Police Department
SBS	Select Bus Service
TLC	New York City Taxi and Limousine Commission

New York City Department of Transportation

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Traffic and Planning

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New York City Department of Transportation

61%

Reduction in crashes involving injuries at West 23rd Street and 7th Avenue after adding pedestrian islands and other safety measures.

Source: NYCDOT

55%

Reduction in speeding along Slosson Avenue and Todt Hill Road after narrowing the roadway and adding turn lanes.

Source: NYCDOT

41%

Improvement in travel speeds on Broadway in Jackson Heights after simplifying traffic movements.

Source: NYCDOT

34%
Shorter travel times for drivers in Downtown Flushing after simplifying traffic movements and signal timings.
Source: NYCDOT

25-65%
Faster average speeds on West 181st Street after improvements to traffic patterns, signal timings and delivery.
Source: NYCDOT

96%
Increase in pedestrian volumes through the center of Grand Army Plaza on weekday evenings.
Source: NYCDOT


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