Lafayette Street Bicycle Lane
South of Houston Street

ON-STREET BICYCLE LANES

DATA ANALYSIS

The on-street bicycle lanes surveyed represent a portion of the proposed 909-mile citywide bicycle network recommended in the New York City Bicycle Master Plan, released jointly in 1997 by NYCDCP and New York City Department of Transportation (NYCDOT). All of the lanes studied are Class II bicycle lanes, defined by on-street striping.

Ten locations in total were selected for surveying at the approximate midpoint of each bicycle lane of the following streets:

- Hudson Street
- Lafayette Street
- Second Avenue
- Broadway
- First Avenue
- Fifth Avenue
- Sixth Avenue
- Central Park West
- Fort Washington Avenue
- Adam Clayton Powell Boulevard

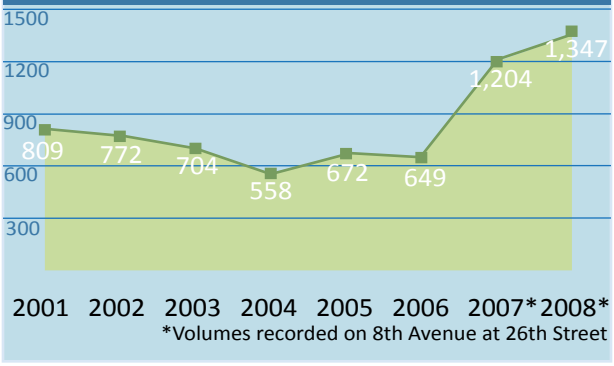
This analysis will focus on ridership data collected from the year 2001 to 2008.

HUDSON STREET/ EIGHTH AVENUE

The Hudson Street/Eighth Avenue bicycle lane starts at Dominick Street and ends at West 57th Street. The Hudson Street lane travels northbound through the West Village area, and the Eighth Avenue section connects the Village to Midtown. The Eighth Avenue section of this bicycle facility was striped in 2007. This facility is approximately two miles long with a five-foot wide bicycle lane and a buffer. It is one of three north-south dedicated bicycle lanes in the West Village. Nearby Greenwich Street and Washington Street both had striped Class II bicycle lanes installed in April 2008.

The daily bicycle volumes on Hudson Street at Christopher Street are available for the study years 2001-2006 (Figure 1). On Hudson Street, the bicycle volumes decreased every year from 2001 to 2004, dropping from 809 cyclists to 558 cyclists. Then slightly increasing above 600 in 2005 and in 2006. The daily volumes in 2007 and 2008 were recorded on Eighth Avenue at 26th Street to capture cyclists

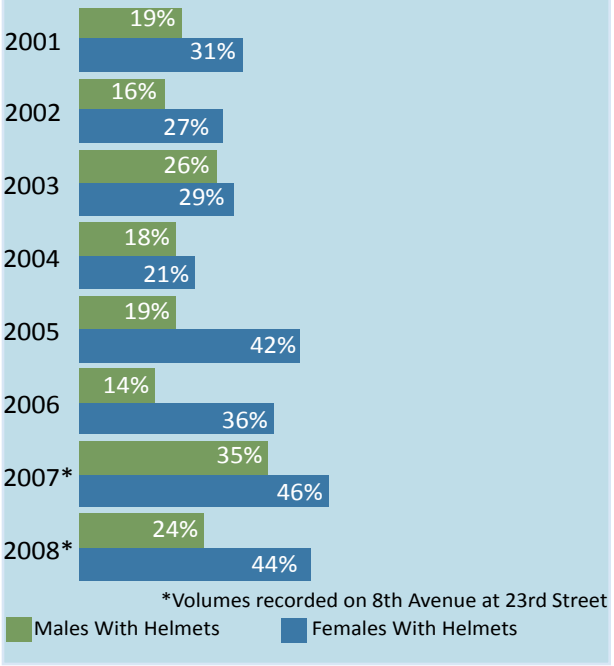
FIGURE 1: CYCLIST VOLUME



using the new lane extension. The volumes at this location were significantly higher and reached 1,204 in 2007 and 1,347 in 2008.

Over the study period, an average of 52 percent of cyclists was observed riding in the bicycle lane with the flow of traffic. This trend has been steady throughout the years, ranging from 46 percent in 2007 to 55 percent in 2005. The percentage of cyclists riding counter-flow in the bicycle lane ranges

FIGURE 2: HELMET USE BY GENDER



from 11 to 18 percent of cyclists over the study period. The buffer adjacent to the bicycle lane of Hudson Street is a convenient and safe space that is often used by cyclists going in the opposite direction. The percentage of cyclists traveling in another lane ranged from 17 to 27.

From 2001 to 2008, the number of male cyclists traveling on Hudson Street/ Eighth Avenue represented approximately 6 times the number of female cyclists, comparable to the city-wide trend of 6.0 male cyclists per 1 female cyclist.

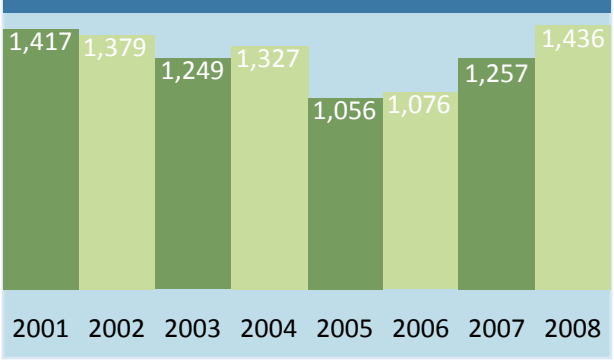
Looking at helmet usage by gender, females on Hudson Street were at least one-third more likely to be wearing helmets as males (see Figure 2). From 2001 to 2008, the average percentage of female cyclists using helmets was 36 percent, slightly lower than the survey-wide average of 40 percent. During the same period, the average percentage of male cyclists using helmets was 23 percent, in line with the study-wide average of 22 percent.

Hudson Street/ Eighth Avenue shows the highest number of rollerbladers, skateboarders and scooters to total users compared to the other on-street bicycle routes. The number and percentage of rollerbladers, skateboarders and scooters peaked in 2003 at nine percent, and has since leveled off to four to six percent of total street users.

Hudson Street Bicycle Lane
Near Christopher Street

LAFAYETTE STREET

FIGURE 3: CYCLIST VOLUME



The Lafayette Street bicycle lane runs from Chambers Street to East 14th Street. Like the general direction of traffic on Lafayette Street, it runs north from Spring Street to East 14th Street, and south from Spring Street to Chambers Street. This count focuses on the northbound section of the Lafayette Street lane, which runs for one mile. This lane is five feet wide, with an additional three-foot wide buffer, and is located on the west side of the street. This route provides access to Union Square and the East Village.

The daily volume of cyclists on Lafayette Street at Astor Place is the second highest of the study, only surpassed by the volumes recorded on Sixth Avenue (see Figure 3 and Appendix A.1 pg. 57).

The intersection of Lafayette Street and Astor Place has data about on-street usage for the years 2001 through 2008. Overall, an average of 58 percent of cyclists ride with the flow of traffic in the bicycle lane, which is higher than the study-wide average of 54 percent. The percentage of cyclists riding within the striped bicycle lane has increased throughout the study period. From 2006 to 2008, more than 60 percent of cyclists were in the bicycle lane of Lafayette Street.

Though the Lafayette Street lane also features a buffer zone, only seven to eleven percent of cyclists were observed riding counter-flow in the Lafayette Street bicycle lane.

Sixteen to 21 percent of cyclists were observed riding in another lane of traffic, keeping in line with the New York City average of 23 percent.

A sample survey of the different types of cyclists riding on Lafayette Street/Fourth Avenue on a typical weekday was completed to observe the types of cyclists using the bicycle lane (Table 1). In October 2004, cyclists' classification counts were completed for two periods of peak bicycle volumes on Lafayette Street/Fourth Avenue. The two periods of peak volume that were surveyed were from 12:00pm to 2:00pm and from 4:30pm to 6:30pm.

In general, cyclists were classified based on their clothing and any items being carried or pulled by his or her bicycle. Cyclists wearing clothes generally worn to work, such as a uniform, a suit, or casual to semi-formal attire, or carrying a briefcase or backpack were classified as commuters. Cyclists who appeared to be students traveling to or from school were also marked as commuters. Neigh-

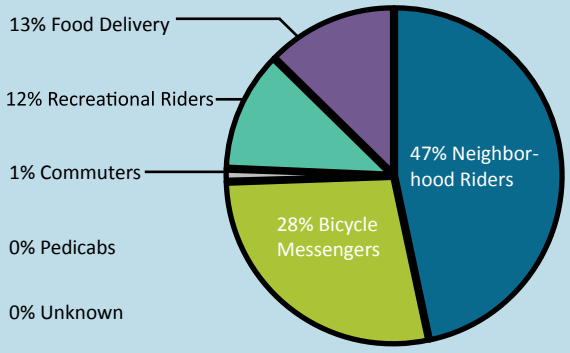
TABLE 1: CYCLIST CLASSIFICATION	Male		Female		Helmet		In Bicycle Lane		Child Under 16 Years Old		Total	
	12:00 - 2:00	4:30-6:30	12:00 - 2:00	4:30-6:30	12:00 - 2:00	4:30-6:30	12:00 - 2:00	4:30-6:30	12:00 - 2:00	4:30-6:30	12:00 - 2:00	4:30-6:30
Commuter	0	3	1	1	0	0	1	2	0	0	1	4
Neighborhood Rider	112	32	29	15	19	2	102	19	0	0	141	47
Recreational Rider	6	34	0	7	0	7	3	16	0	0	6	41
Messenger	78	30	0	4	12	4	51	13	0	0	78	34
Food Delivery Cyclist	44	7	0	0	5	0	25	3	0	0	44	7
Pedicab	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	240	106	30	27	36	13	181	53	0	0	270	133

borhood riders were identified by casual attire and evidence of running an errand, such as a grocery bag, small household items being pulled by a cart, or stopping to enter a retail establishment. Cyclists wearing bicycling specific attire who appeared to be riding for fun—alone, with a group or with children—were classified as recreational riders. Messengers were identified as cyclists who appeared to be experienced riders, comfortable in heavy traffic, who were carrying large bags with items such as envelopes, documents and rolled up drawings. Cyclists who carried food while riding and/or wore the emblem of a food establishment were classified as food delivery cyclists. Pedicab drivers were categorized by riding a bicycle with an attached carriage to accommodate passengers. All cyclists that could not be categorized were marked as "unknown." According to the data collected, nearly half of the cyclists on Lafayette Street are neighborhood riders, another 40 percent are messengers or food delivery cyclists, and the remaining 13 percent is shared between recreational riders and very few commuters (see Figure 4).

The Lafayette Street bicycle lane has some of the highest daily volumes of female cyclists observed, and a lower average ratio of male cyclists to female cyclists. Over the course of the study period, the ratio of males to females was 4.7 male cyclists to 1 female cyclist, compared with the study-wide average of 6.0 male cyclists to 1 female cyclist.

Female cyclists on Lafayette Street were one-third more likely to be using a helmet than male cyclists. Over a eight year period, from 2001 to 2008, female cyclists used helmets 33 percent of the time, while male cyclists only used them 22 percent of the time. In 2007 and 2008, however, helmet usage for both genders increased dramatically. The female helmet use average, from 2001 to 2006, is 29 percent, while from 2007 to 2008, it is 45 percent. The male average from 2001 to 2006 is 19 percent, while from 2007 to 2008 it is 32 percent.

FIGURE 4: COMBINED CYCLIST CLASSIFICATION

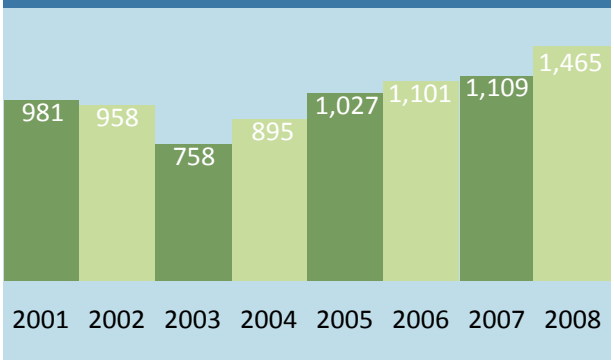


SECOND AVENUE

The Second Avenue bicycle lane travels for 0.75 miles between Houston Street and East 14th Street and is five feet wide with a three-foot wide buffer. Traffic on this street travels in the southbound direction.

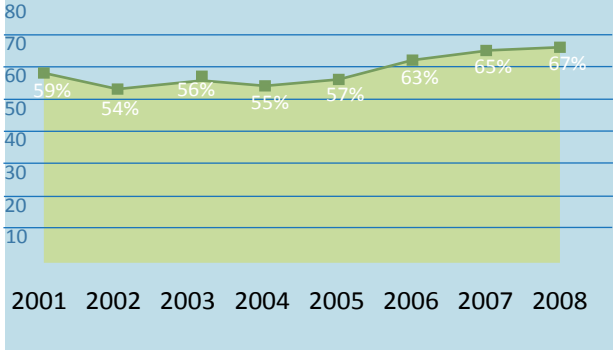
In the eight year study period from 2001 to 2008, the average daily volume of cyclists on Second Avenue at Seventh Street was 1,037. From 2001 to 2003, the number of cyclists decreased. The numbers from 2004 to 2008, on the other hand, has increased steadily each year, with a jump of 356 cyclists between 2007 and 2008 (Figure 5).

FIGURE 5: CYCLIST VOLUME



The bicycle lane usage has increased annually, with one exception between 2001 and 2002, when it decreased by five percent. Cyclists riding in the bicycle lane of Second Avenue represented 54 percent of the cyclists in 2002 and 67 percent of the cyclists in 2008—a 13 percent jump in six years (Figure 6).

FIGURE 6: CYCLISTS IN THE BICYCLE LANE

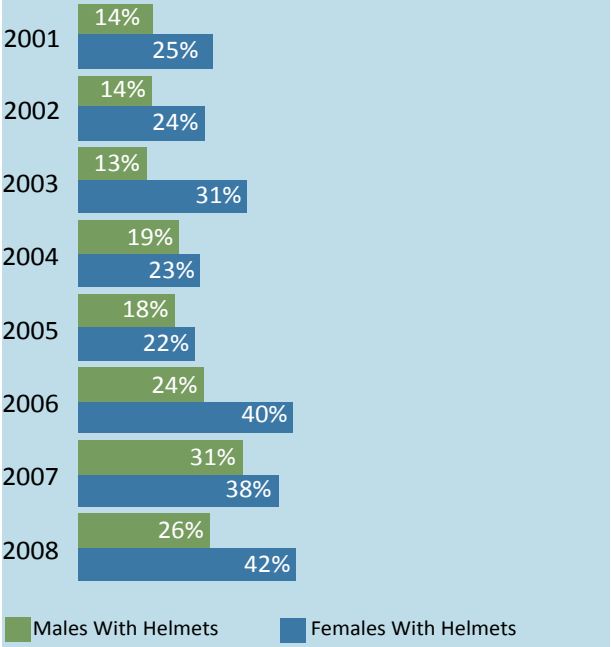


Seven to 13 percent of cyclists were observed riding counter-flow in the bicycle lane. This behavior is often observed along bicycle facilities with a buffer, which provides a convenient space for many cyclists who use it when traveling in the opposite direction of traffic.

The percentage of cyclists traveling in other lanes ranged from 25 percent in 2002 to 17 percent in 2008. While the percentage increased between 2001 and 2002, it has dropped gradually every year since and is now down eight percentage points from the 2002 high.

The number of cyclists who were observed riding on the sidewalk has decreased dramatically over the study period. In 2001 eight percent of cyclists used the sidewalk. In 2004, that number decreased to four percent, and by 2008 it was two percent.

FIGURE 7: HELMET USE BY GENDER

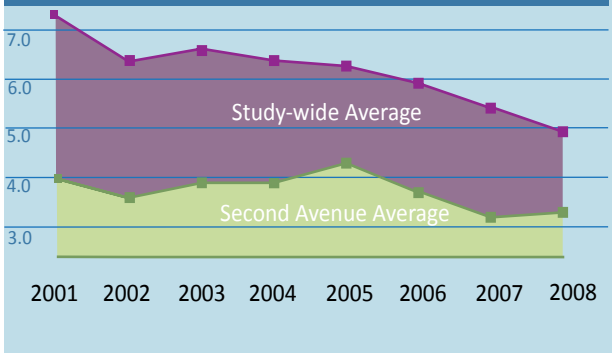


The percentage of female cyclists wearing helmets was lowest overall on Second Avenue, averaging just 32 percent compared to the study-wide average of 40 percent. Nevertheless, the percentage of females using helmets increased dramatically—18 percent—from 22 percent to 40 percent between 2005 and 2006. It has hovered around 40 percent each subsequent year. The percentage of males using helmets, on the other hand, is consistent with the study-wide trend. On average, 20 percent of males wore helmets at this location. The study-wide average is 22 percent (see Figure 7).

The ratio of male to female cyclists was lowest at this location, with 3.7 male cyclists to every female cyclist (Figure 8).

Second Avenue Bicycle Lane
At 7th Street

FIGURE 8: NUMBER OF MALES PER FEMALE



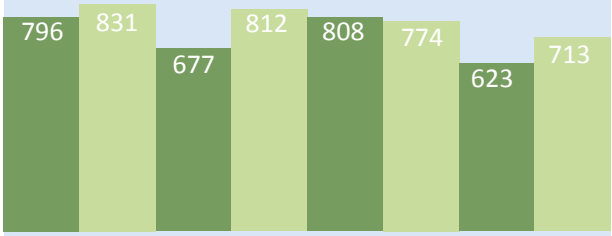
BROADWAY

Broadway features a bicycle lane from 17th Street to 59th Street that travels in the southbound direction through midtown Manhattan. It has a width of five feet and a length of 2.6 miles. It is the second longest on-street bicycle lane in Manhattan.

Counts were done on Broadway at 28th Street and at 48th Street from 2001 to 2006. Daily volume counts were conducted for the years 2007 and 2008 only on Broadway at 48th Street. The daily volumes are about the same at both locations and did not change much over the years (Figure 9). They range from 665 to 885 cyclists at 28th Street and from 622 to 852 cyclists at 48th Street.

The volumes recorded at these two locations, however, are much lower than the volumes collected at two other bicycle facilities which also provide a link to midtown Manhattan (Sixth Avenue bicycle lane: daily volumes are over 1,500 and Fifth Avenue bicycle lane: daily volumes are close to 1,000 cyclists).

FIGURE 9: CYCLIST VOLUME



Cyclist volume averaged between 28th Street and 48th Street count locations for years 2001 - 2006.

On average, less than half of the cyclists—38 percent—on Broadway were observed riding in the bicycle lane which is lower than the percentage of cyclists observed riding in the bicycle lane at the other bicycle facilities (Figure 10). A contributing factor is the illegal use of the bicycle lane by vehicles, taxis, delivery vans and trucks. Theses vehicles often double park or stand illegally in the bicycle lane blocking its access to cyclists who are forced to ride in the other travel lanes. A selection of field observations presented in Table 2 supports this trend.

Ten percent more cyclists were observed riding in the lane adjacent to the bicycle lane on Broadway compared to the study-wide average of eight percent.

FIGURE 10: CYCLISTS IN THE BICYCLE LANE

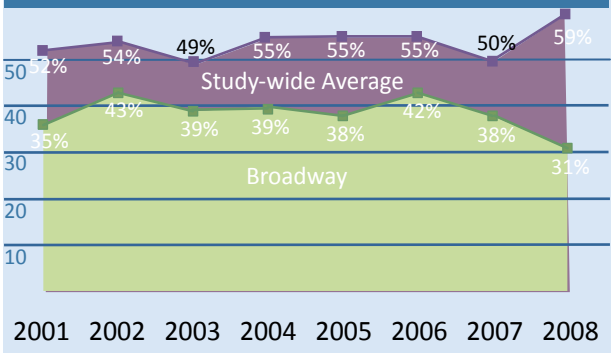


TABLE 2: FIELD OBSERVATIONS: BICYCLE LANE OBSTRUCTIONS ON BROADWAY			
Year	**Time**	**Location**	**Observation**
2001	1:30 – 1:45pm	28th Street	Taxis/trucks in bicycle lane
2001	Various times	48th Street	Car in bicycle lane
2002	2:15 – 2:30pm	28th Street	A truck (>3 axle) parks in the bicycle lane
2002	2:15 – 2:45pm	28th Street	A traffic control vehicle parks in bicycle lane while traffic officer gives out a violation ticket
2002	2:45 – 3:00pm	28th Street	A delivery truck parks in bicycle lane to make a delivery
2003	1:00 – 3:00pm	28th Street	Frequent double parked cars block the bicycle lane
2003	5:00 – 5:30pm	28th Street	Truck blocks bicycle lane
2004	9:30 – 9:45am	28th Street	Merchants sometimes push dollies down the bicycle lane and block the lane to cyclists
2004	12:00 – 12:30pm	48th Street	Truck delivering beer partially parked in bicycle lane near 49th Street
2005	2:00 – 2:15pm	28th Street	Fire at 1186 Broadway; bicycle lane blocked
2005	3:30 – 3:45pm	48th Street	A police check point was placed on the bicycle lane at this location forcing cyclists to use the adjacent lane instead
2006	9:15 – 9:30am	48th Street	Two joggers observed running in the bicycle lane
2006	11:00 – 11:30am	28th Street	Truck parks in bicycle lane
2006	5:45 – 6:00pm	28th Street	NYPD vehicle parks in bicycle lane for a few minutes
2007	10:00am	48th Street	3 vehicles park in bicycle lane
2007	1:00pm	48th Street	Taxi drops off passenger in bicycle lane
2007	1:45pm	48th Street	Ambulette drops off passenger in bicycle lane
2008	9:00 – 9:15am	48th Street	Bicycle lane blocked by double parked vehicle
2008	12:45 – 1:00pm	48th Street	Some vehicles are blocking the bicycle lane

The number of male cyclists traveling on Broadway represented approximately 13 times the number of female cyclists on Broadway, more than double the study-wide male to female ratio average of 6 male cyclists per 1 female cyclist. However the percentage of female cyclists wearing helmets is slightly higher than the other locations studied: 45 percent of female cyclists wore a helmet on Broadway compared to the study-wide average of 40 percent.

FIRST AVENUE

The First Avenue bicycle lane runs 2.7 miles from East 72nd Street to East 125th Street. It is four feet wide, and travels northbound.

The bicycle counts were recorded at East 85th Street and have remained steady throughout the study period with the exception of 2001 (see Table 3). This may be due to the fact that the counts in 2001 were collected at 91st Street, six blocks further north than the counts of the following years. The First Avenue lane has one of the lowest average cyclist volumes of the study areas.

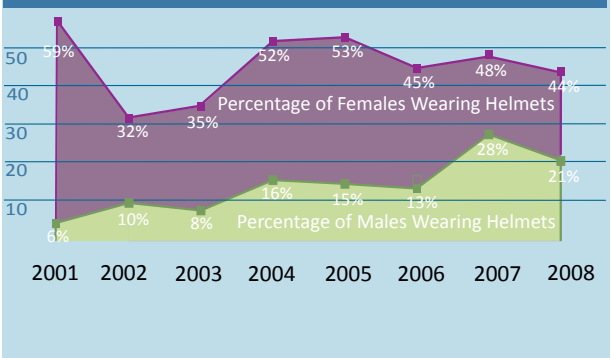
Over the course of the study period, the majority of cyclists were observed using the bicycle lane (see Figure 12). However, in 2001, a very low volume of cyclists used the bicycle lane. During that year only 77 of the 299 cyclists counted were located in the bicycle lane. This trend may be a result of how the bicycle lane was used by motorists during that year. For the majority of the time from 10:00am to 7:00pm the bicycle lane at 91st Street was blocked either by a double parked vehicle or a truck which forced many cyclists to ride in the travel lanes.

TABLE 3: CYCLIST VOLUME

Year	Number of Cyclists
2001*	299
2002	404
2003	430
2004	418
2005	491
2006	463
2007	383
2008	419

*Volumes recorded on 1st Avenue at 91st Street

FIGURE 11: HELMET USE BY GENDER



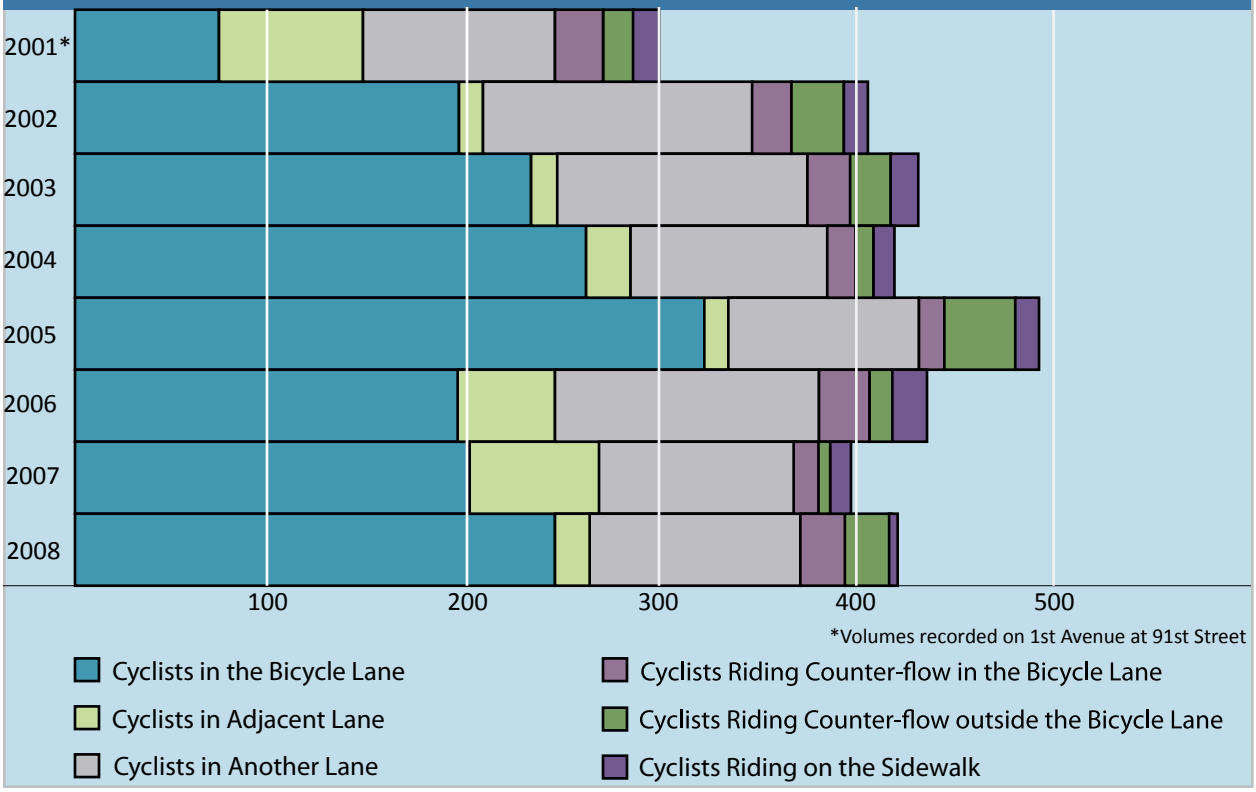
On First Avenue, the percentage of male cyclists using helmets is the lowest of the study. The average percentage of males using helmets was 14, compared to the study-wide average of 22 percent. The percentage was especially low at this location from 2001 to 2003, when, on average, just eight percent were observed using helmets. In 2004, however, the percentage almost doubled to 16 percent, and in 2007 it jumped another 12 percentage points to its highest, at 28 percent. By comparison, the average percentage of males using helmets study-wide was 18 percent in 2001 to 2003 and 34 percent in 2007.

First Avenue Bicycle Lane
At 85th Street

Female helmet usage was on par with the city averages in 2002 and 2003 of 32 and 35 percent respectively. It spiked 17 percentage points in 2004 and 2005 to more than 50 percent, and has since leveled off, hovering around 45 percent. However, this high percentage of female helmet usage was observed in 2001 when counts were done on First Avenue at 91st Street. Overall, it averages 46 percent, slightly higher than the study-wide average of 40 percent (see Figure 11).

The male to female ratio is highest at this location, with an average of 18 males per 1 female. The male to female ratio is nearly triple the study-wide average of 6.0 males per 1 female. The number of males per female spiked in 2005, at 25, and has since fallen to less than half that amount. In 2008, there were 12 males per 1 female.

FIGURE 12: CYCLIST MODAL SPLIT

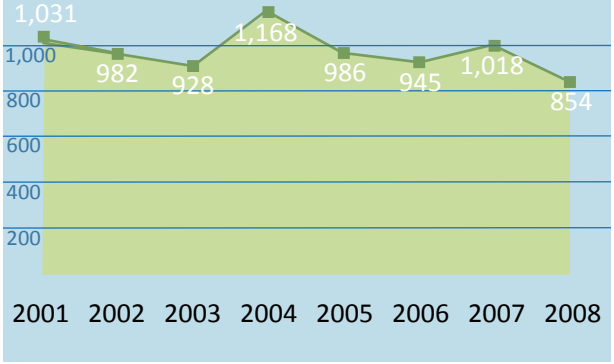


FIFTH AVENUE

The Fifth Avenue bicycle lane runs 0.8 miles southbound from 23rd Street to Washington Square North. It runs in an area between lower and midtown Manhattan.

The number of cyclists riding on Fifth Avenue at 14th Street has remained fairly constant, ranging from 854 in 2008 to 1,168 in 2004, with an average of 989 cyclists over the study period (Figure 13).

FIGURE 13: CYCLIST VOLUME



The percentage of cyclists using the bicycle lane has historically been lower than the rest of the studied bicycle lanes (Figure 14). From 2001 to 2006, cyclists on Fifth Avenue at 14th Street were observed riding in the bicycle lane just 38 to 51 percent of the time. By comparison, the study-wide average is 54 percent. The data for 2007 is unavailable because the bicycle lane was not yet restriped after repaving of the road; however a total of 1,018 cyclists were counted on Fifth Avenue for the day; in 2008 the number peaked at 58 percent of cyclists using the

Fifth Avenue Bicycle Lane
At 14th Street

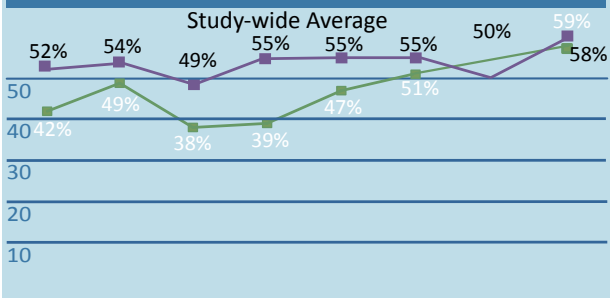
TABLE 4: FIELD OBSERVATIONS: BICYCLE LANE OBSTRUCTIONS ON FIFTH AVENUE		
Year	Time	Observation
2001	9:52 – 9:58am	Truck in bicycle lane
2001	2:00 – 2:15pm	Cars in bicycle lane
2001	2:15 – 2:30pm	Taxis in bicycle lane
2002	12:00 – 12:15pm	A delivery truck double parks and blocks bicycle lane
2002	12:15 – 12:30pm	A sports utility vehicle blocks the bicycle lane
2002	1:30 – 3:00pm	Extensive double parking forces many cyclists to ride outside of the bicycle lane
2003	11:35am – 12:25pm	Truck blocks bicycle lane
2004	11:45am – 12:15pm	Five cyclists use the adjacent lane instead because the bicycle lane is blocked by a double parked vehicle
2004	11:15 – 11:30pm	One man is seen pushing a cart in the bicycle lane
2004	12:15 – 12:30pm	One woman is seen pushing a cart in the bicycle lane
2004	1:00 – 1:15pm	A taxi is standing in bicycle lane
2004	1:45 – 2:15pm	Two vans park in the bicycle lane
2004	2:30 – 2:45pm	Van double parked in bicycle lane
2004	3:00 – 5:00pm	Occasionally cars block bicycle lane, impeding cyclists' use of bicycle lane
2004	6:10 – 6:15pm	Garbage truck temporarily blocks bicycle lane
2006	6:15 – 6:30pm	One jogger observed in the bicycle lane
2007	7:15am	A homeless man with a shopping car in the bicycle lane
2008	11:00 – 11:15am	Many double parked trucks in the bicycle lane
2008	12:00 – 12:15pm	Truck in bicycle lane

bicycle lane.

A lower use of the bicycle lane on Fifth Avenue is probably due to some extent to the fact that delivery and private vehicles occasionally blocked the bicycle lane during the day, impeding the use of the facility by cyclists. Based on the data collected, vehicles, taxis and delivery vans double park or stand in the bicycle lane mainly during the hours of 11:00am and 7:00pm (see Table 4).

Generally, both male and female cyclists on Fifth Avenue are less likely to be wearing helmets than the study-wide averages of 22 percent for males and 40 percent for females. On average, 20 percent of males and 35 percent of females were observed using a helmet while cycling on Fifth Avenue.

FIGURE 14: CYCLISTS IN THE BICYCLE LANE



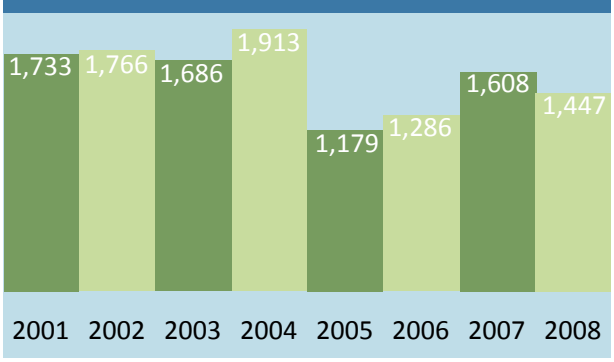
SIXTH AVENUE

The Sixth Avenue bicycle lane runs north from West 8th Street to West 40th Street, connecting downtown and midtown. With a four-foot width, it is one of the narrowest bicycle lanes in the city. It was striped according to the "1978 Bikeway Planning and Policy Guidelines for New York City" which recommended a minimum width of three feet six inches for a bicycle lane. This roadway is busy with high vehicular traffic volumes traveling northbound to Midtown Manhattan.

The daily bicycle volumes on Sixth Avenue at 23rd Street are the highest among all streets surveyed in Manhattan over the last 8 years and range from 1,179 to 1,913 cyclists (Figure 15). Ridership has fluctuated from year to year, peaking in 2004 only to drop to its lowest in 2005 and 2006. The Sixth Avenue bicycle lane ranks in this study as the most used or traveled by cyclists in the city.

For all years analyzed, the highest volumes on Sixth Avenue were observed in the afternoon between

FIGURE 15: CYCLIST VOLUME

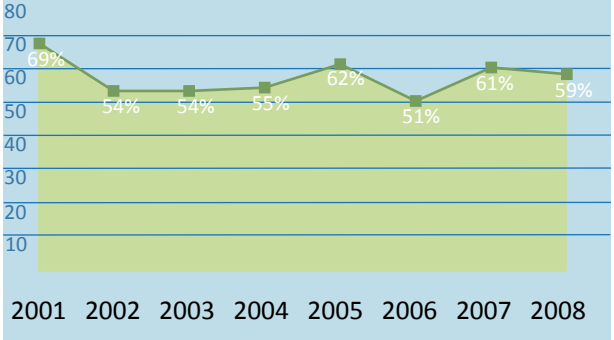


1:00 and 6:00 pm. This may be due to the type of cyclists that were observed riding on Sixth Avenue during that time period. Based on two cyclist classification sample surveys that were completed in September of 2004, messengers on bicycles represent, on average, 51 percent of the cyclists on Sixth Avenue. The first survey was completed from 12:00pm to 2:00pm and the other from 2:00pm to 4:00pm on typical weekdays during the peak period of bicycling activities (see Tables 5 and 6). The messengers are followed by food delivery riders who represent about 12.5 percent of the bicycle traffic. Together these two types of cyclists represent two-thirds of the afternoon bicycle volumes on Sixth Avenue. The fact that the bicycle lane is located in the heart of the Midtown Central Business District, which generates delivery and pick-up activities, reinforces this assumption.

Over the study period, the average percentage of cyclists riding in the bicycle lane on Sixth Avenue is 58 percent, slightly higher than the study-wide average of 54 percent (see Figure 16). The tendency of more than half of the cyclists who use Sixth Avenue to ride in the bicycle lane might be due to the presence of heavy vehicular traffic volumes in the travel lanes. Many cyclists may be forced to stay in the bicycle lane to avoid vehicular traffic and congestion in the travel lanes.

Males were about 8 times more likely to be observed riding on Sixth Avenue than females, com-

FIGURE 16: CYCLISTS IN THE BICYCLE LANE



pared to the study-wide average of 6.0. The type of cycling activity that occurs on this avenue—package and food delivery, which was observed to be mainly occupied by men—might contribute to this male to female ridership ratio on Sixth Avenue.

While this facility had the highest daily volumes of male cyclists in Manhattan, an average of just 21 percent of them were wearing helmets. An average of 41 percent of women wore a helmet while cycling here. The percentage of women wearing helmets rose steadily, peaking at 59 percent in 2008.

TABLE 5: CYCLIST CLASSIFICATION 12:00 - 2:00 pm	Male	Female	Helmet	In Bicycle Lane	Child Under 16 Years Old	Total
Commuter	14	8	8	15	0	22
Neighborhood Rider	71	25	17	55	0	96
Recreational Rider	4	0	4	2	0	4
Messenger	166	2	13	87	0	168
Food Delivery Cyclist	45	0	5	22	0	45
Pedicab	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
TOTAL	300	35	47	181	0	335

TABLE 6: CYCLIST CLASSIFICATION 2:00 - 4:00 pm	Male	Female	Helmet	In Bicycle Lane	Child Under 16 Years Old	Total
Commuter	22	19	8	27	0	41
Neighborhood Rider	2	6	1	3	0	8
Recreational Rider	3	4	0	2	0	7
Messenger	206	1	31	116	0	207
Food Delivery Cyclist	47	0	2	32	0	47
Pedicab	12	1	0	8	0	13
Unknown	60	8	5	48	0	68
TOTAL	352	39	47	236	0	391

CENTRAL PARK WEST

The bicycle lane on Central Park West lies between West 62nd and West 110th Streets. The bicycle lane continues further north on Frederick Douglass Boulevard from 110th Street to 121st Street. This arterial is a two-way street. However, a bicycle lane was striped only in the northbound direction. The bicycle lane is 3.5 miles long (including the segment on Frederick Douglass Boulevard). It was striped in November 2001. Data only for the years 2002 to 2008 will be analyzed for this bicycle facility.

Bicycle ridership volumes on Central Park West at 93rd Street ranged greatly, from 407 cyclists in 2003 to 793 cyclists in 2008 (Table 7). The volumes increased as the years progressed, except in 2003, when the number of cyclists dropped by 95 from the previous year and in 2006 by 86 from the year 2005. In comparison to the other count locations, the volumes remained low.

In general, from 2003 to 2004, the percentage of cyclists who were observed riding in the bicycle lane

TABLE 7: CYCLIST VOLUME

Year	Number of Cyclists
2001	---
2002	501
2003	407
2004	471
2005	764
2006	678
2007	692
2008	793

was higher than the citywide average of 54 percent, reaching 70 percent in 2004. From 2005 to 2008, the percentages dropped below 50 percent, to as low as 39 percent in 2005 (see Appendix A.I, pg. 57).

The percentage of cyclists riding counter-flow (southbound) in the bicycle lane is significantly higher on Central Park West than on the other bicycle lanes, perhaps because there is only one bicycle lane on this two-way street and more than a few cyclists are uncomfortable moving with southbound traffic (Figure 17). However, a significant number of cyclists were also observed traveling in the southbound lane with traffic (identified as "counter-flow out of bicycle lane" in adjacent modal split graph), supporting the fact that having a bicycle lane along the southbound travel lanes would accommodate many of the counter-flow cyclists on this street.

The sidewalks on Central Park West are often used by cyclists (children as well as adults) who are entering nearby Central Park. Sidewalk riding, however, has dropped steadily since 2003.

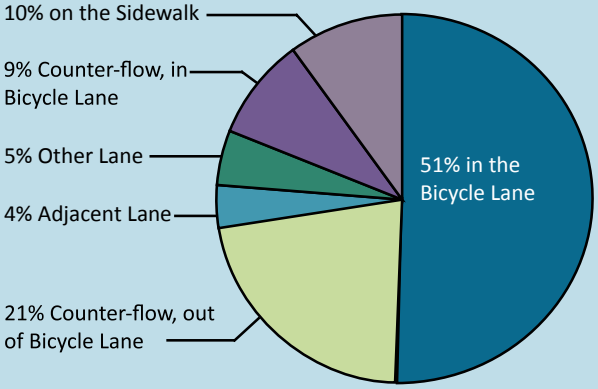
Because of the park, this particular area attracts many children. More children were observed riding their bicycles on Central Park West either in the bicycle lane or on the sidewalk than any other study location, with the exception of 2004.

The percentage of cyclists observed wearing hel-

mets along Central Park West is slightly higher overall than the study-wide average. Males were observed wearing helmets about 27 percent of the time (compared to the study-wide average of 22 percent), while females were observed wearing helmets more than twice as often—55 percent of the time (compared to the study-wide average of 40 percent).

Central Park West has the second highest percentages of rollerbladers, skateboarders and scooters in relation to total users due to its proximity to Central Park. The percentage has remained fairly steady, ranging from three percent in 2006 and 2008 to six percent in 2002 and 2005.

FIGURE 17: CYCLIST MODAL SPLIT

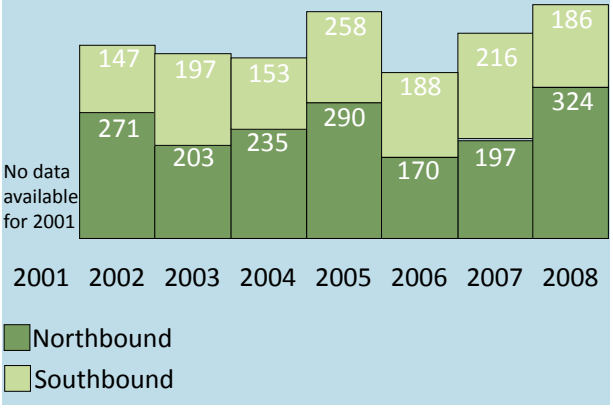


Children under 16 represented three to six percent of the total users on Central Park West, compared to the study-wide average of two percent.

Central Park West Bicycle Lane At 75th Street

FORT WASHINGTON AVENUE

FIGURE 18: CYCLIST VOLUME



The Fort Washington Avenue bicycle lane is broken up into three segments. The first segment runs from West 160th Street to West 165th Street. It then continues at West 168th Street until West 177th Street. The last segment extends from West 179th Street to the Cloister Museum. The bicycle lane is two-way only between West 172nd Street and West 177th Street and between 183rd Street and the Cloisters. The bicycle lane is 1.67 miles long and was striped in November 2001. Data is available from 2002 to 2008.

The bicycle volumes are low, comparable to the volumes of other bicycle facilities north of 60th Street, such as First Avenue and Adam Clayton Powell Boulevard. Low ridership volumes have been a persistent trend along bicycle facilities that extend north of Central Park. The volume of cyclists on Fort Washington Avenue at West 173rd Street are close for each year surveyed, ranging from 358 in 2006 to 548 in 2005 (Figure 18). A significant number of cyclists—close to half of the daily volumes—were observed using the facilities between 4:00pm and 7:00pm.

Fort Washington Avenue has a very low percentage of cyclists who ride counter-flow in the bicycle lane. Over the seven year study period, an average of just two percent of cyclists were observed riding counter-flow in both the north- and southbound lanes.

Fort Washington Avenue Bicycle Lane - Northbound At 173rd Street

Moreover, Fort Washington Avenue also had a very low percentage of cyclists traveling in other lanes - six percent of travelers in 2002, but only one percent in 2007 and 2008. For the other years no cyclists were reported travleing in other lanes.

Over the study period, Fort Washington Avenue had a noticeably higher average percentage of cyclists who use helmets—almost double the study-wide average percentage (see Figures 19 and 20). An average of 48 percent of male cyclists used helmets and 73 percent of female cyclists used helmets on Fort Washington Avenue, compared to the citywide trend of 22 percent of male cyclists and 40 percent of female cyclists using helmets.

The ratio of males to females was high at this location. The number of males per 1 female fluctuated from 5 to 19, with an average of 10 males per female. By comparison, the study-wide average of males per female is 6.0.

Fort Washington Avenue Bicycle Lane - Southbound At 173rd Street

FIGURE 19: AVERAGE MALE HELMET USE

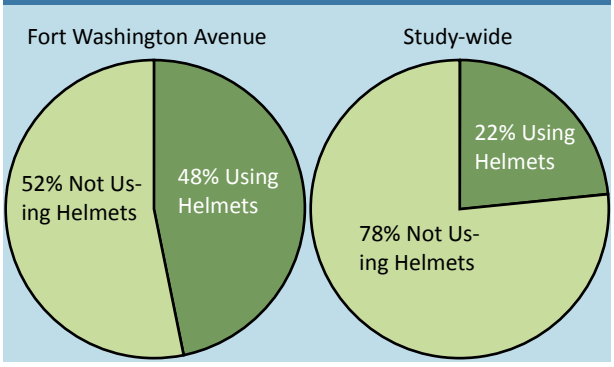
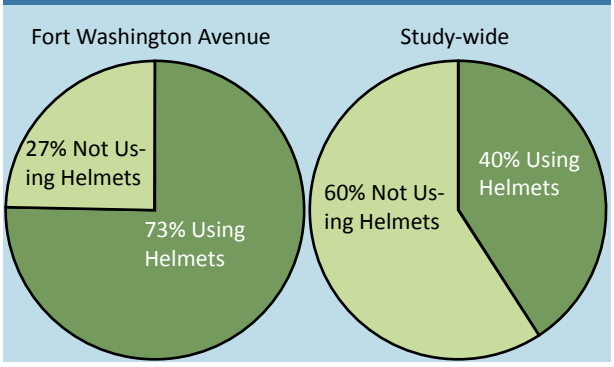


FIGURE 20: AVERAGE FEMALE HELMET USE



ADAM CLAYTON POWELL BOULEVARD

Adam Clayton Powell Boulevard has a bicycle lane from West 110th Street to West 153rd Street. Being a two-way street, a five-foot wide bicycle lane has been striped in each direction of traffic. Each bicycle lane stretches for slightly more than two miles.

Bicycle counts were conducted at West 113th Street in both northbound and southbound directions. Among the studied on-street bicycle facilities, Adam Clayton Powell Boulevard has the lowest volumes of cyclists (Figure 21).

Excluding 2003, over the eight year study period, more than 70 percent of the cyclists recorded on Adam Clayton Powell Boulevard were observed riding with the flow of traffic in the bicycle lane (see Figure 22). In 2003, as a result of the repaving of the street, the pavement markings were covered with asphalt including the bicycle lane. This made it difficult to determine where cyclists were riding on Adam Clayton Powell Boulevard. Most cyclists traveling in the appropriate direction on the right side of the street were recorded in the "other travel lane" column and represented 79 percent of the volume for that day. This year has not been factored into the percentage above.

In terms of cyclists using the sidewalks to get to their destination, Adam Clayton Powell Boulevard had the highest percentages of cyclists using the sidewalks in 2001 and 2002, with 17 percent and 19 percent of trips, respectively. Since 2003, Central Park West has seen the highest percentages of cyclists riding on the sidewalk and Adam Clayton Powell Boulevard has had the second highest percentages. However, the percentage generally declined each year, with six percent of cyclists using the sidewalk in 2008 compared to eleven percent in 2003 (Figure 22).

The percentage of cyclists on Adam Clayton Powell Boulevard observed wearing helmets is the second highest in the city, only surpassed by Fort Washington Avenue. (Adam Clayton Powell Boulevard and Central Park West are the second highest in terms of male helmet usage.) Twenty-five percent of males were observed riding with helmets—a rate slightly higher than the study-wide average of 22 percent and 60 percent of females used helmets—a rate much higher than the city-wide average of 40 percent.

FIGURE 21: CYCLIST VOLUME

Adam Clayton Powell Blvd - Northbound
At 113th Street

Adam Clayton Powell Blvd - Southbound
At 113th Street

FIGURE 22: CYCLIST MODAL SPLIT