

01 Executive Summary and Major Findings

02 The Case for Bike-Share in NYC

03 Case Studies

04 NYC Bicycling Conditions

05 NYC Bicycling Demand

06 Paying for a NYC Bike-Share

07 Implementation

08 Appendices

05 NYC Bicycling Demand



- NYC Bicycling Trends
- Who Rides in New York?
- Who Uses Bike-Shares?
- Potential Demand Estimates

Image (L/R): BicyclesOnly (www.flickr.com)

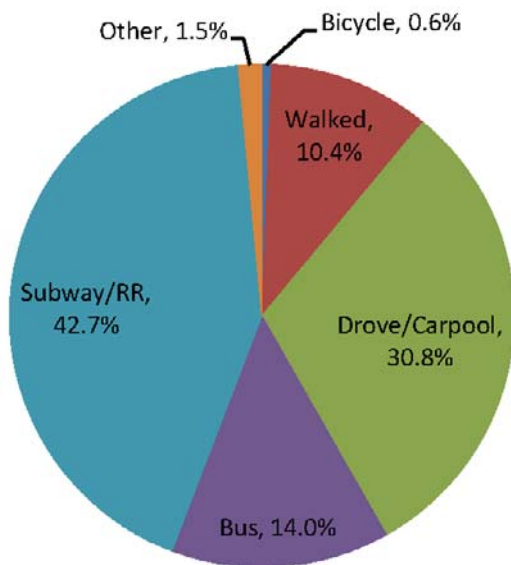
NYC BICYCLING TRENDS

This section analyzes New York City’s current bicyclist trends and estimates the potential demand for a bike-share program. In addition to a general trend analysis of current New York City bicycle ridership, the gender, age and location breakdown of New York bicyclists are considered. Based on these analyses, this section also attempts to provide rough estimates for the number of people, New Yorkers, out-of-city commuters and tourists, who might use a bike-share program. Three uptake rates for bike-share use (3%, 6% and 9%) are considered in this section. The numbers generated through these assumptions cannot be used to specifically determine who will use a bike-share program, rather they are indications of the potential demand New York City could see if such a program were introduced.

Data from the 2006 American Community Survey (ACS) indicates that bicyclists currently make up 0.6% of all New York City commuters.¹ This mode-split is higher than the national average of 0.38% of the total national work force, but lower than the mode-split reported in other major American cities such as San Francisco, Washington DC, Minneapolis-St. Paul, Philadelphia, Portland and Seattle. A number of these cities, namely Minneapolis, Philadelphia and Portland, have recently released plans to introduce bike-share programs. NYCDOT’s current bicycle infrastructure enhancements are designed to help increase New York City’s bicycling mode split to 3% by 2020, a goal set in NYCDOT’s 2008 Strategic Plan.²

NYC Commuter Mode Split

n=3,597,547 (2006 ACS)



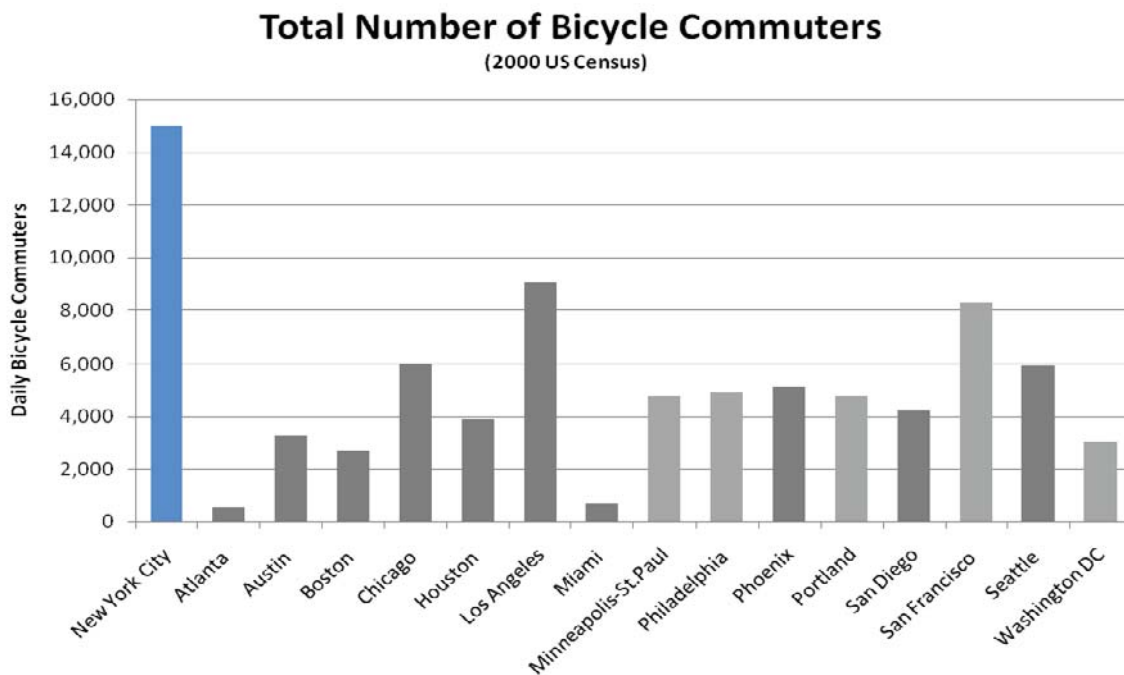
However, by virtue of its size, New York City leads the nation in the number of bicycle commuters. The 2000 US Census indicates that approximately 15,000 New York City residents commute to work by bicycle; this is one third again as many bicycle commuters as Los Angeles and almost twice as many as San Francisco, the cities with the next largest bicycle commuter populations. While cities like Minneapolis, Portland and San Francisco have higher bicycling mode-splits, in New York City, bicycling is used as commuter mode by significantly more people.

The perception of bicycling as “not a real option” for commuting in New York may play a large part in New York’s low mode split. As discussed in Chapter 4, this perception is created by concerns about safety, driver behavior, difficulties bringing bicycles on subways

1 2006 American Community Survey. In New York City where multi-modal commuting is the norm, the US Census and ACS tend to undercount bicycle trips. Respondents are only allowed to select one “primary” mode of transportation to work, thereby excluding bicyclists who might ride to the nearest bus or subway station or who commute by bicycle only a few days a week.

2 New York City Department of Transportation, “Sustainable Streets: Strategic Plan for the New York City Department of Transportation, 2008 and Beyond,” April 2008

and trains, and bicycle theft. NYCDCP data suggests that the lack of secure bicycle parking facilities at workplaces is the primary deterrent to bicycle commuting.³ City-backed public service campaigns to encourage better driver and bicyclist behavior may improve the image of cycling citywide. Recently proposed additions to the city’s Zoning Resolution to encourage bicycle parking in the workplace may, if passed by the City Council, also increase bicycle commuting.



In addition, as other cities have seen, building bike lanes tends to encourage cycling. The city of Paris, not known for bicycling prior to Mayor Delanoë, saw a 48% increase in cycling between 2001 and 2006 as the city built more bike lanes.⁴ NYCDOT’s current efforts to increase the number of bicycle lanes and bicycle parking facilities around the city may also spur bicycle use. Between 2000 and 2007, NYCDOT built over 200 miles of bike lanes and saw commuter cycling grow by 77%.⁵

Lastly, as New York’s population increases, congestion on existing transportation modes worsens, and the price of transit rises, bicycling within the city has the potential to grow and gain credence as a viable commuter option. Recent economic reports suggest that higher fuel costs have demonstrable effects on American travel patterns and commuter behavior, including increasing bicycle use across the country. Higher gas prices may also be causing public transit use to increase. In June 2008, the American Public Transportation Association reported that public transit ridership for the first quarter of 2008 had increased 3.3%, at the same time as a 2.3% decrease in vehicle

3 Moynihan, Colin, “For City Commuters, Same Old Story for Another Vehicle: Parking Is Scarce;” *The New York Times*, 1 July 2008

4 Velib’ Website, “PRESS RELEASE: Thousands of self-service bicycles real freedom! Bicycles everywhere for everybody!,” p.2

5 New York City Department of Transportation, “Sustainable Streets: Strategic Plan for the New York City Department of Transportation, 2008 and Beyond,” April 2008, p.15

miles traveled nationally reported by the Federal Highway Administration.⁶ In New York City, the Comptroller's Office reported that January-October, 2007 subway, MetroNorth and LIRR ridership had increased by 4.5%, 4.2% and 5.3% respectively, over the same time period in 2006.⁷

A 2008 report by David Rosenberg, Chief North American economist for Merrill Lynch, indicated that rising fuel costs have caused bicycle sales in the United States to rise 5% in 2008 in contrast to an 11% decrease in car sales over the same time period.⁸ On Long Island, bike shop owners have reported a 10-20% increase in bicycle sales as compared to the year before.⁹ Sales of Long Island Railroad bicycle passes are also increasing. In May 2006, LIRR sold 1,451 bike passes. In May 2008, LIRR sold 1,725, an 8.5% increase.¹⁰

6 American Public Transportation Association (APTA), "Public Transit Ridership Continues To Grow In First Quarter 2008," (http://www.apta.com/media/releases/o8o6o2_ridership_report.cfm); Accessed 9/8/08

7 Thompson, William, NYC Comptroller, "Economic Notes;" Office of the New York City Comptroller, Vol. XVI, No. 1, February 2008

8 Wilcox, Daniel; "Driving Out, Bicycling to Work is In," *New York Daily News*, 17 June, 2008

9 Teigman, Danny, "Concern over gas prices sees more LIRRers turn to bikes," *Newsday.com* (newsday.com/business/local/gasprices/ny-bzcov075755208julo7,0,7134350.story); 7 July, 2008

10 *ibid.*

WHO RIDES IN NEW YORK?

Data from the 2000 US Census, the 2006 ACS, bicycle feasibility assessments conducted by other cities and usage data from the Paris and Barcelona bike-share programs indicate that bicycle ridership and potential bike-share use may be impacted by demographics such as:

- Gender
- Age
- Location

Other demographic information, such as race/ethnicity, income and educational status may also impact bicycle use but the data available does not allow this report to explore these factors in a meaningful fashion.

Gender:

Bicycling is typically a male dominated activity and in New York City this is especially the case. Men made up 65% of the total cyclists counted in NYCDCP's 2007 fall bicycle counts, conducted at 14 locations throughout Manhattan. This gender disparity is higher than gender disparities found in bicyclist surveys conducted in other cities like Toronto and Paris. In 2000, men made up 56% of all Toronto cyclists.¹¹ In 2005, men made up 59% of all Parisian cyclists.¹²

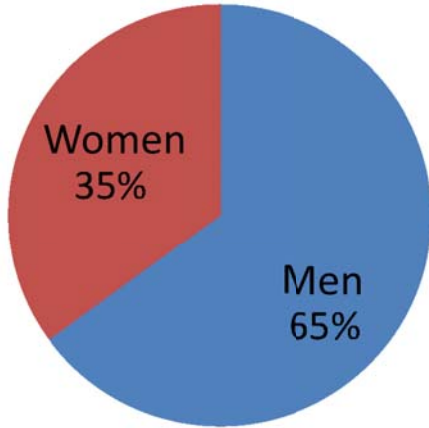
The gender disparity among New York City cyclists is even more pronounced when the type of bike lane is considered. In 2007, men made up 85% of bicycle riders on on street bikelanes. The number of women in on street lanes has been slowly increasing since 2000 (in 2000, women made up 12% of the riders counted on street vs. 15% in 2007). Counts conducted on Manhattan's greenways, which are used mostly by commuters and recreational riders, instead of messengers or delivery people, may reflect the gender split more accurately.

Weekend ridership along Manhattan's greenways, which is probably most applicable to recreational bicycling, shows much less of a disparity between men and women riders. In 2007, women made up 42% of weekend greenway ridership. In general, the gender disparities in bicycle ridership may underscore the need for more protected on street bike lanes similar to the greenways or the 9th Avenue protected lane recently built by NYCDOT.

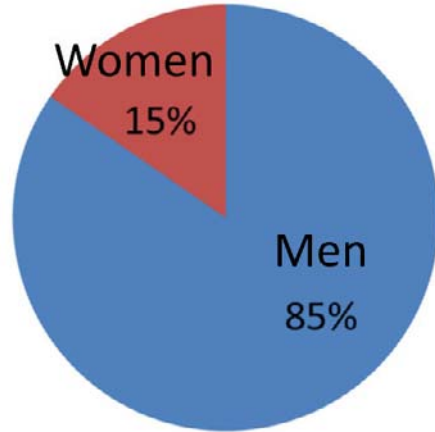
¹¹ Decima Research, Inc., "City of Toronto 1999 Cycling Study," February 2000

¹² Velib' Website, "Velib Press Kit;" (www.velib.fr); Accessed 8/26/08

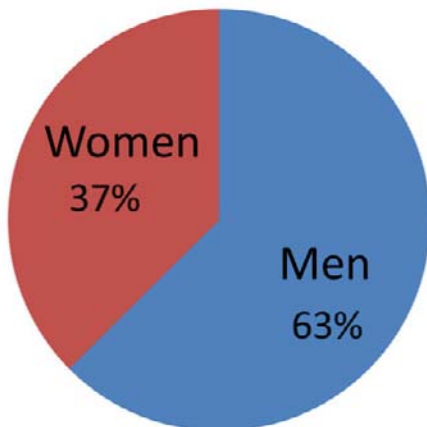
Bicyclists by Gender
All NYC Cyclists
n=39,629 (DCP 2007)



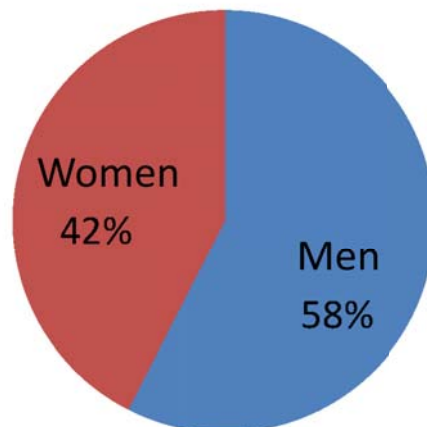
Bicycle Use by Gender
On-Street Bike Paths
n=8,814 bicyclists (DCP2007)



Bicycle Use by Gender
Greenways
n=10,964 (DCP 2007)



Bicycle Use by Gender
Weekend/Greenway
n=19,851 (DCP2007)

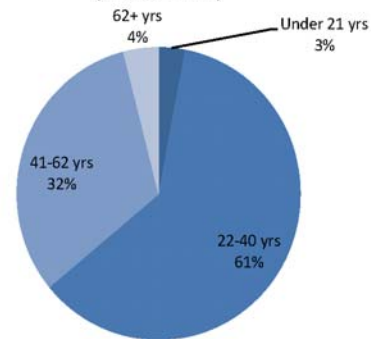


Age:

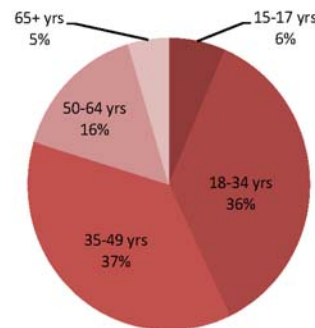
Survey data collected in New York, Toronto, Paris and other cities indicates that bicycling is not only for the 20-somethings. The 2006 Bicycle Needs Poll conducted online by the NYCDPC found that while the majority (61%) of New York bicyclists were in their 20's and 30's, people in their 40's and 50's still made up almost one third (32%) of the respondents. These numbers are similar to more rigorously conducted bicyclist surveys in places like Toronto which found that 58% of all Toronto bicyclists are over the age of 35.¹³ Data collected on Velib' users in Paris shows similar trends. More than one third (38%) of Velib' users are over the age of 36.¹⁴ Half (51%) of Parisian bicyclists before Velib' were between the ages of 30 and 50.¹⁵

Both the Toronto and New York City bicycling surveys found a limited number of younger bicyclists. In New York, bicyclists under the age of 21 made up 3% of the total survey respondents but approximately 30% of the total population. In 2007, only about 2% of public high school students in New York City biked to school or biked to public transportation to get to school.¹⁶ The majority of student trips are short enough to be completed by bicycle; 73% of students walk to school or walk to public transportation to get to school.¹⁷ In Paris, riders between the ages of 16 and 25 make up a little less than one quarter (23%) of Velib' users.¹⁸ At the other end of the spectrum, both studies also found a small number of older bicyclists. In New York City, bicyclists ages 62 and older made up 4% of the total survey respondents but 14% of the total population.

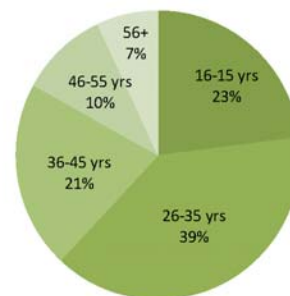
DCP Bike Survey Respondents (NYCDPC 2007)



Toronto Bicyclists by Age n=1001 (Toronto Bicycle Report 2000)



Velib' Users by Age (Velib' User Survey 2008)



13 Decima Research, Inc., "City of Toronto 1999 Cycling Study," February 2000

14 Velib' Website, "Now We Know You Better;" (http://www.velib.paris.fr/les_newsletters/10_aujourd_hui_nous_vous_connaissons_mieux); Accessed 8/26/08

15 Velib' Website, "Velib' Press Kit;" (www.velib.fr); Accessed 8/26/08; p.27

16 New York City Departments of Health and Mental Hygiene (DOHMH) and Education (DOE): New York City Youth Risk Behavior Survey, 2007; data requested from DOHMH Bureau of Epidemiology Services, August 2008

17 *ibid.*

18 Velib' Website, "Now We Know You Better;" (http://www.velib.paris.fr/les_newsletters/10_aujourd_hui_nous_vous_connaissons_mieux); Accessed 8/26/08

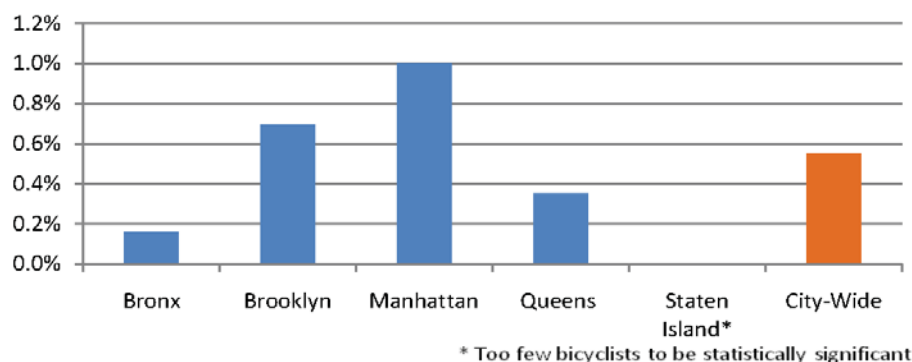
Location:

According to the 2006 ACS, the number of bicycle commuters in New York varies by location, with the highest bicycle commuter mode-splits concentrated in Manhattan and Brooklyn. Other data sources, such as NYCDHMH’s Community Health Survey (CHS), which consider all bicyclists, not just commuters, suggest however that bicycle use is consistent across the boroughs, except Staten Island, and significantly higher than commuter counts depict.

2006 ACS data indicates that 0.6% of all New York workers currently commute to work by bicycle and that the number of bicycle commuters in Manhattan and Brooklyn is higher than the citywide average, 1% and 0.65% respectively. Bicycle commuting rates are lower than the average in the Bronx (0.16%) and Queens (0.35%). The total number of Staten Island bicycle commuters (97) reported in the 2006 ACS is smaller than the margin of error and thus not included. When analyzed geographically at the Public Use Microdata Area (PUMA) level, the 2006 ACS shows that current bicycle commuting in New York City is concentrated on the west side of Manhattan south of 110th street, East Harlem, the Lower East Side, parts of Brooklyn (Greenpoint, Williamsburg, Bedford-Stuyvesant, Downtown Brooklyn, Park Slope, Carroll Gardens, Red Hook), Sunset and Borough Parks, Gravesend, and select portions of the Bronx (Woodlawn/Eastchester) and Queens (Corona, Elmhurst). All of these areas currently have bicycle commuting rates that are above the citywide average. Most of the Manhattan and Brooklyn rates are approaching NYCDOT’s goal of 3% bicycling mode split by 2020.¹⁹

Bicycling as a Commuter Mode by Borough

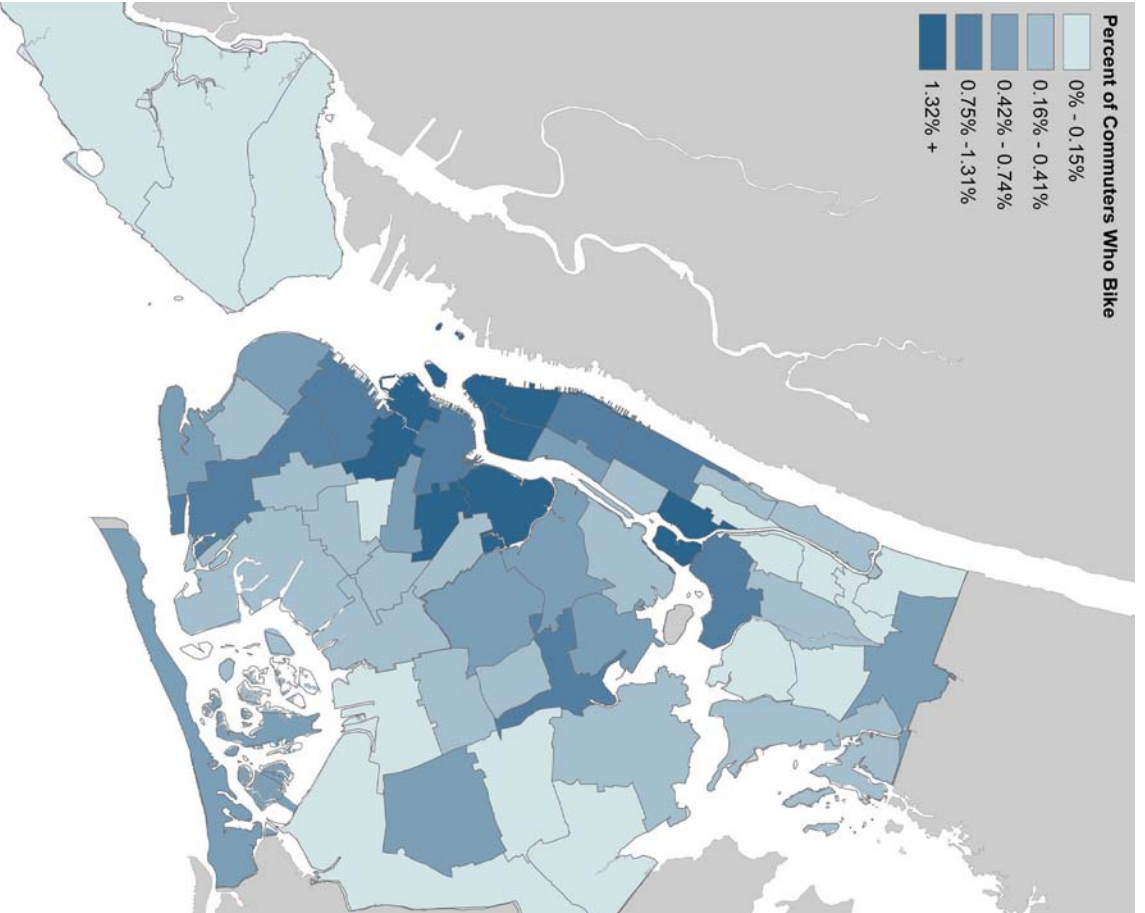
n=3,6597,547; Estimated Cyclists=19,953 (ACS 2006)



With some exceptions, areas indicated by the ACS as having high rates of bicycle commuting correspond to areas with a highly connective bike lane network (i.e. prominent greenways and bike lanes that go both east/west and north/south). These factors are probably mutually reinforcing. For a bike-share program, the presence of connective bike lanes may be important as potential bike-share users who do not currently bicycle may feel more comfortable riding on bike lanes.

The inclusion of non-commuter bicyclist data suggests that bicycling in New York City is far more common than otherwise thought and that there are significant bicycling populations in at least

¹⁹ New York City Department of Transportation, “Sustainable Streets: Strategic Plan for the New York City Department of Transportation, 2008 and Beyond,” April 2008



Rates of bicycle commuting vary throughout the city, with the most bicycle commuters living in Manhattan and northwest Brooklyn. Data from the 2000 US Census.

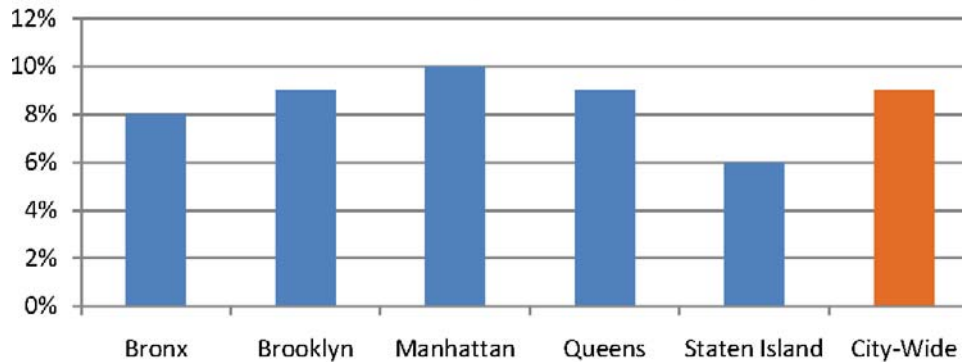


New York's bike lane network also extends throughout the city and is the most robust in Manhattan and Brooklyn.

four of the five boroughs. NYCDHMH's 2007 CHS, found that about 9% of adult New Yorkers (543,000 people) are regular cyclists, meaning they rode a bicycle in New York City several times a month in the last 12 months.²⁰

New Yorkers who Bicycle Regularly by Borough

n= 10,000; Estimated Cyclists=543,000 (CHS 2007)

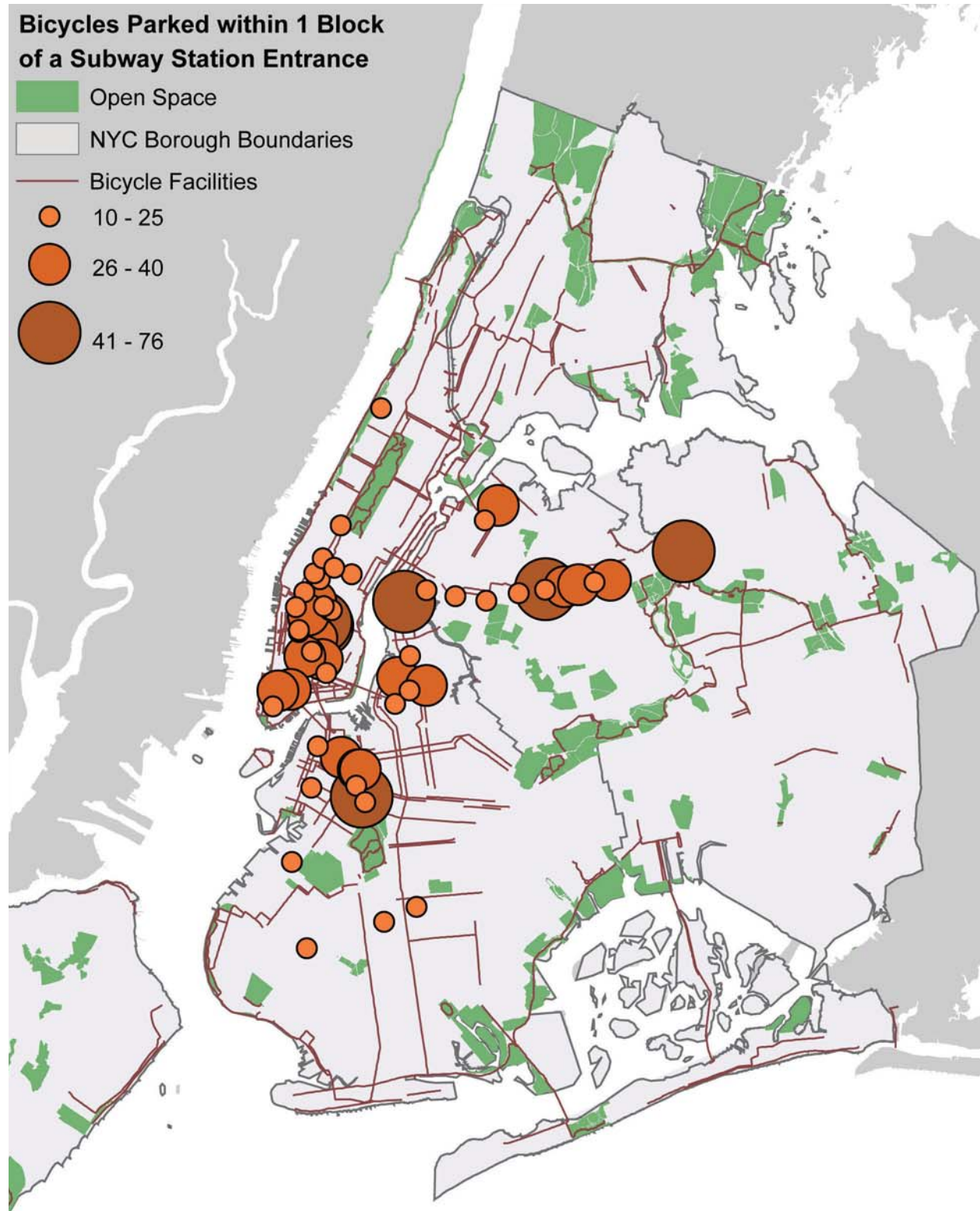


CHS data is underscored by other locally conducted bicycle counts and analyses. The Census and ACS surveys do not count multi-modal commutes; this may result in significant undercounting of bicycle commuters in New York. For example, a 2008 NYCDCP study of bicycle parking options at New York City subway stations found significant numbers of bicycles parked around subway stations in Queens, especially around Astoria, Queens Plaza, Jackson Heights and Flushing. These are areas that do not show up as “bicycling hot spots” in the Census or ACS.

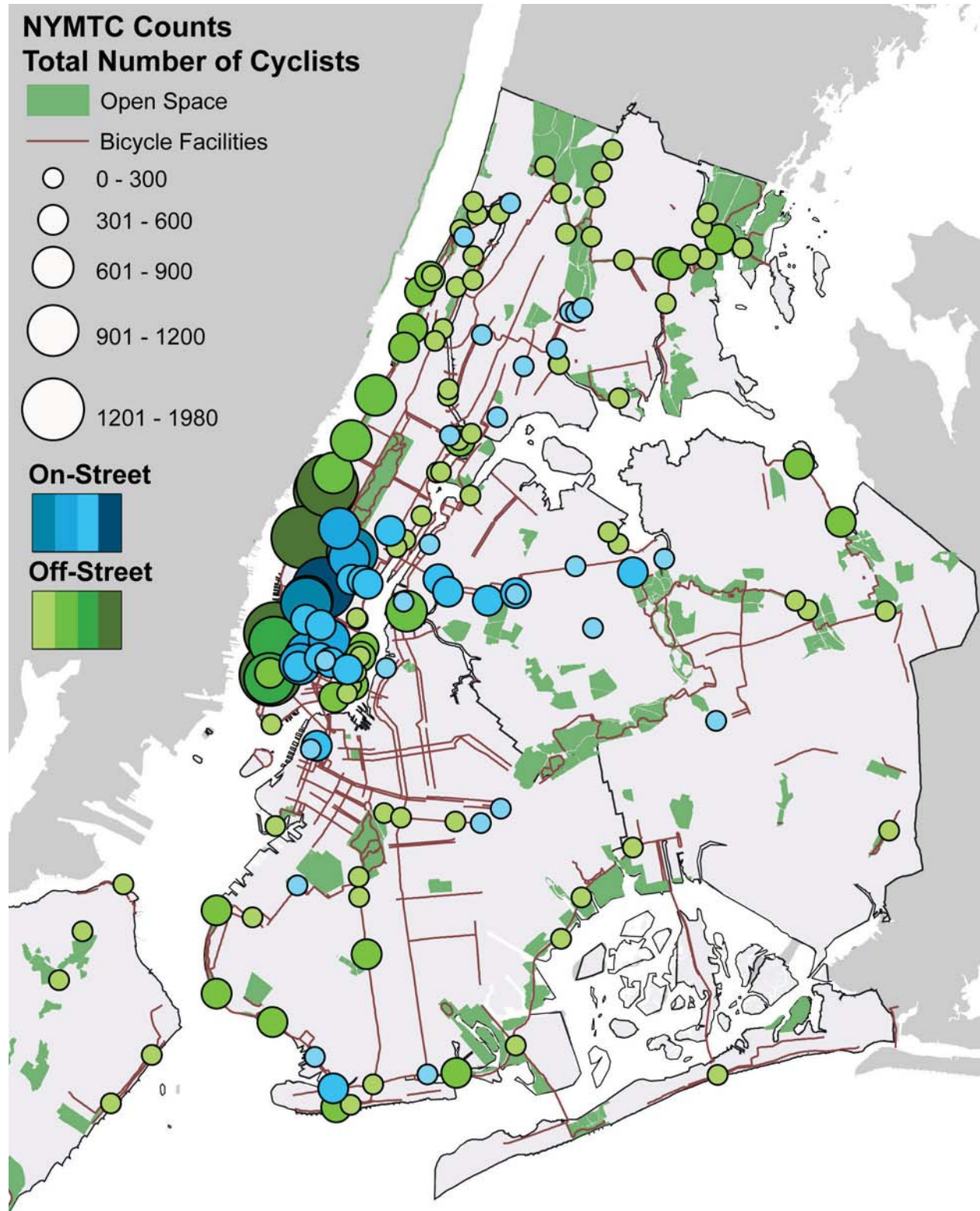
New York Metropolitan Transportation Council (NYMTC) Bicycle Data Collection Program counts, conducted from 2002 to 2005, also provide interesting data on bicycle usage in the city. Unlike NYCDOT and NYCDCP annual counts, the NYMTC counts are conducted in all five boroughs. These counts found significant numbers of bicyclists at all 226 counting locations throughout the city. Manhattan and greenway counting locations recorded up to 2,000 bicyclists daily per location. Counting locations on street and in the other four boroughs typically recorded 300-600 bicyclists daily per location.²¹ Unclear criteria for selecting counting locations and the fact that most locations were only surveyed once over the course of the project makes these counts difficult to use for anything more than anecdotal evidence.

²⁰ NYC Department of Health & Mental Hygiene, 2007 Community Health Survey (CHS). The CHS is a cross-sectional telephone survey that samples approximately 10,000 adults aged 18 and older from NYC neighborhoods.

²¹ NYMTC, “NYMTC Bicycle Data Collection Program,” (http://www.nymtc.org/project/NYMTC_Bicycle_Data_Collection_Program/www_html/intro_sum.htm); Accessed 09/09/08



Data collected by NYCDP Transportation Division suggests a high degree of bicycle use in areas not indicated by the Census. These may be multi-modal bicycle commuters who bicycle to the subway or bus.



NYMTC one-day bicycle counts also find higher than expected numbers of bicyclists in areas where the Census shows little bicycle commuting activity.

WHO USES BIKE-SHARES?

Data from the major European bike-share programs (Velib', Bicing, Velo'v), indicate that bike-share programs typically have three main user groups:

- Commuters
- Recreational/Errand Riders
- Tourists

In Paris, 61% of the 190,000 people who have purchased Velib's annual membership are commuters who use Velib' in order to get to work or school. About 84% of these users typically use Velib' in conjunction with other modes of transportation.²² Commuter ridership is not confined to the cities alone. In Paris, 33% of all annual subscription holders (62,700 people) live in the Parisian suburbs.²³ By and large, these riders use commuter rail services to get into Paris and then complete their journeys by bicycle.

Tourist and short term demand is also significant. In Lyon, approximately 40% of all trips are made by weekly pass holders.²⁴ Within the first six months of operation, Velib' sold 2.5 million one day passes.²⁵

Bike-share user groups each have their own distinct bicycle use patterns. For example, commuters and recreational/errand users are most likely to want monthly or annual membership structures, whereas tourists will mostly want daily or weekly options. Commuters are more likely to use bicycles in the morning or evening, during typical rush hour peaks, whereas recreational/errand users and tourists make up the bulk of the users during the rest of the day. User groups are not mutually exclusive. A person who uses Velib' to get to work may also use Velib' at lunch time to run an errand. Night trips, presumably made mostly by recreational users, are also very common. In Paris where the Metro stops running at 1am, 25% of all trips take place between the hours of 9pm and 3am.²⁶ New York City might also see significant numbers of trips during "off hours" when subway and bus service is reduced.

The type of user also affects the rate of bicycle turnover. For example, data gathered from Velib' thus far shows that majority of annual members are commuters and that the average trip is 20 minutes.²⁷ This indicates rapid bicycle turnover as commuters reach their place of work or transfer point. In contrast, tourists are more likely to rent bicycles for longer time spans in order to see

²² Velib' Website, "Now We Know You Better;" (http://www.velib.paris.fr/les_newsletters/10_aujourd'hui_nous_vous_connaissons_mieux); Accessed 8/26/08

²³ *ibid.*

²⁴ JCDecaux, "CycloCity: A Revolutionary Public Transit System Accessible to All;" Philadelphia Presentation, 2008; (http://bikesharephiladelphia.org/PDF%20DOC/V%C3%A9lo'V_A_REVOLUTIONARY_PUBLIC_TRANSPORT_SYSTEM_ACCESSI.pdf); Accessed 9/02/08

²⁵ DeMaio, Paul; "Random Velib' Data," The Bike-Sharing Blog; (<http://bike-sharing.blogspot.com/2008/02/random-velib-data.html>); Accessed 6/25/08 & Bremner, Charles, "Paris offers drivers electric cars to beat pollution - for a small charge;" *The London Times*, 2 January, 2008

²⁶ DeMaio, Paul; "Random Velib' Data," The Bike-Sharing Blog; (<http://bike-sharing.blogspot.com/2008/02/random-velib-data.html>); Accessed 6/25/08

²⁷ *ibid.*

multiple sites. It is likely that a bike-share program in New York would see similar patterns since 2000 US Census data shows that most New York City bicycle commuters (85%) currently travel less than 30 minutes in order to get to work.

Price sensitivity may also be influenced by user group. For commuters and other habitual users, the financial draw of a bike-share program is that it costs the same or less than other transportation modes while allowing them to get closer to their final destinations without delays or transfers. Thus, for commuters and errand users, pricing structures, such as the free initial 30 minutes system that the European programs use, may be significant incentives to bicycle use. In contrast, recreational users and tourists, who currently pay up to \$99/day for bicycle rentals in New York may be less price sensitive, and may keep a given bike-share bicycle for multiple hours regardless of price.

POTENTIAL DEMAND ESTIMATES

Using the user group patterns of successful bike-share programs around the globe as a guide, this report estimates the number of people in each potential user category—commuter, recreational/errand and tourist—in New York City. A range of “uptake” rates (the proportion of any given population who can be expected to use a bike-share program) is employed to develop demand estimates for a New York City bike-share program. For more nuanced analysis, these estimates should be refined by considering current “profiles” of typical New York City cyclists.

Uptake Rates (3%, 6% & 9%):

Uptake rates vary by user group and by city. It may be difficult to assume the uptake rate for New York as is seen in cities elsewhere. Cultural or city character differences such as prevalence of cars or willingness to bicycle, and financial differences such as the price elasticity for bicycle use or the percent of income typically consumed by transportation must be accounted for. This report presents a range of uptake options (3%, 6% and 9%) in order to best reflect the possible demand and financial outcomes of a bike-share program. The uptake range, from 3%-9%, was developed from the following analysis of predicted and actual uptake rates for other programs.

In London, TfL has conducted market analyses and surveys and estimates that approximately 9% of the residents in the phase one bike-share area (a roughly 13 square mile area centered on Westminster) will purchase annual memberships.²⁸ This estimate is slightly higher than subscription data collected in Paris. In the first year, 6% of Parisians (127,300 Paris residents) purchased annual subscriptions.²⁹ An additional 60,000 annual passes were sold to commuters living in the Parisian suburbs just outside of Velib’s range.

TfL’s survey data predicts a 9% as the average uptake rate for tourists as well.³⁰ However, data gathered in Paris on the number of one day Velib’ passes sold suggest that this estimate may be low. In 2007, Paris, one of the world’s most popular international tourist destinations, received 28 million overnight visitors.³¹ Also in 2007, Velib’ sold 2.5 million one day tourist passes in its first six months. Assuming that short term visitors to Paris were the primary buyers of short term one day Velib’ passes, these numbers suggest a tourist uptake rate of 18%.³² 9% is the highest uptake rate used in this report.

Despite low rates of commuter bicycling as recorded by the US Census and ACS, data collected by NYCDOHMH in 2007 indicates that 543,000 (9% of adults) New Yorkers rode a bicycle several times per month over the course of the past year. These existing bicycle rates suggest that, despite negative perceptions surrounding bicycling in the city, a significant number of New Yorkers bicycle regularly.

The pricing of the program is likely to play a large role in the final achieved uptake rate. A program with higher membership and user fees is predicted to have a lower uptake rate. Conversely, a program which relies less on membership and use fees to cover operating costs and thus has low-

28 Dector-Vega, German, Traffic & Highways Manager, Transit for London; Email Correspondence: 30 July 2008

29 67% of 190,00 annual passes sold

30 Dector-Vega, German, Traffic & Highways Manager, Transit for London; Email Correspondence: 30 July 2008

31 “Le Tourisme A Paris En 2007;” Office du Tourisme et des Congres de Paris, p.2

32 Velib’ Website, “Velib Press Kit;” (www.velib.fr); Accessed 8/26/08

er rates should see a higher uptake. Paris charges approximated \$40/year and achieves around 6% uptake. While further market analyses should be conducted, this report assumes that a bike-share uptake rate for commuter and recreational/errand riders combined could reasonably range between 3% and 9% of the population.

Commuters:

An analysis of where New Yorkers live in relationship to their jobs offers a more nuanced portrait of how many New Yorkers could be expected to commute via a bike-share program. As outlined in Appendix B, this study assumes that 5 miles is the maximum reasonable bicycling distance for commuters in New York. Using this assumption, analysis was conducted with data from the 2000 US Census (Journey to Work) to determine the total number of New Yorkers in the workforce who live within a 5 mile and 2.5 mile radius of their place of work. This analysis, summarized below indicates that between approximately 369,000 and 1.45 million New Yorkers live close enough to their place of work that bicycling could be a feasible option. This represents between 11% and 45% of the total New York City resident workforce.

As discussed in Appendix B, these figures only represent the number of New York City residents who live within cycling distance of their work. In addition, due to the restrictions of the Census, multi-modal commuters are excluded from this estimate.

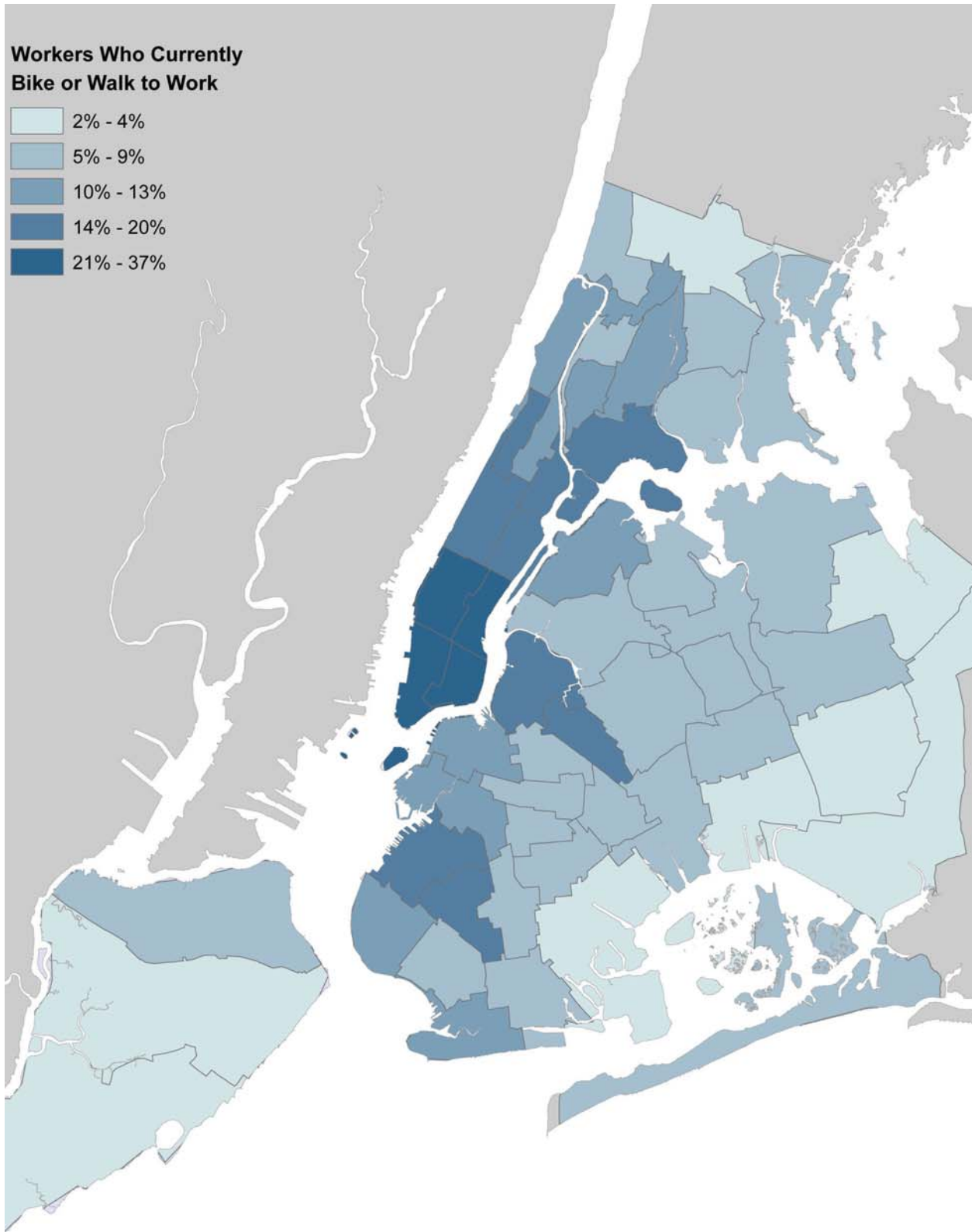
New Yorkers Who Live Within Biking Distance of Work

	Currently Bike or Walk	Live Within 2.5 Miles of Work	Live Within 5 Miles of Work
Total Number of New Yorkers	368,800	831,400	1,446,400
As Percentage of Total NYC Population	4.61%	10.38%	18.06%
As Percentage of New Yorkers in the Workforce	11.55%	26.05%	45.31%

At a 3% uptake rate, this would translate into 11,000-43,000 New Yorkers commuting using a citywide bike-share program. At a 6% uptake rate, 22,000-87,000 New Yorkers would commute using a citywide bike-share program. At a 9% uptake rate, 33,000-130,000 New Yorkers would commute via bike-share. Neither the Paris data nor TfL uptake model is adjusted for commuting distance (the uptake model is a percent of total population) or price elasticity.

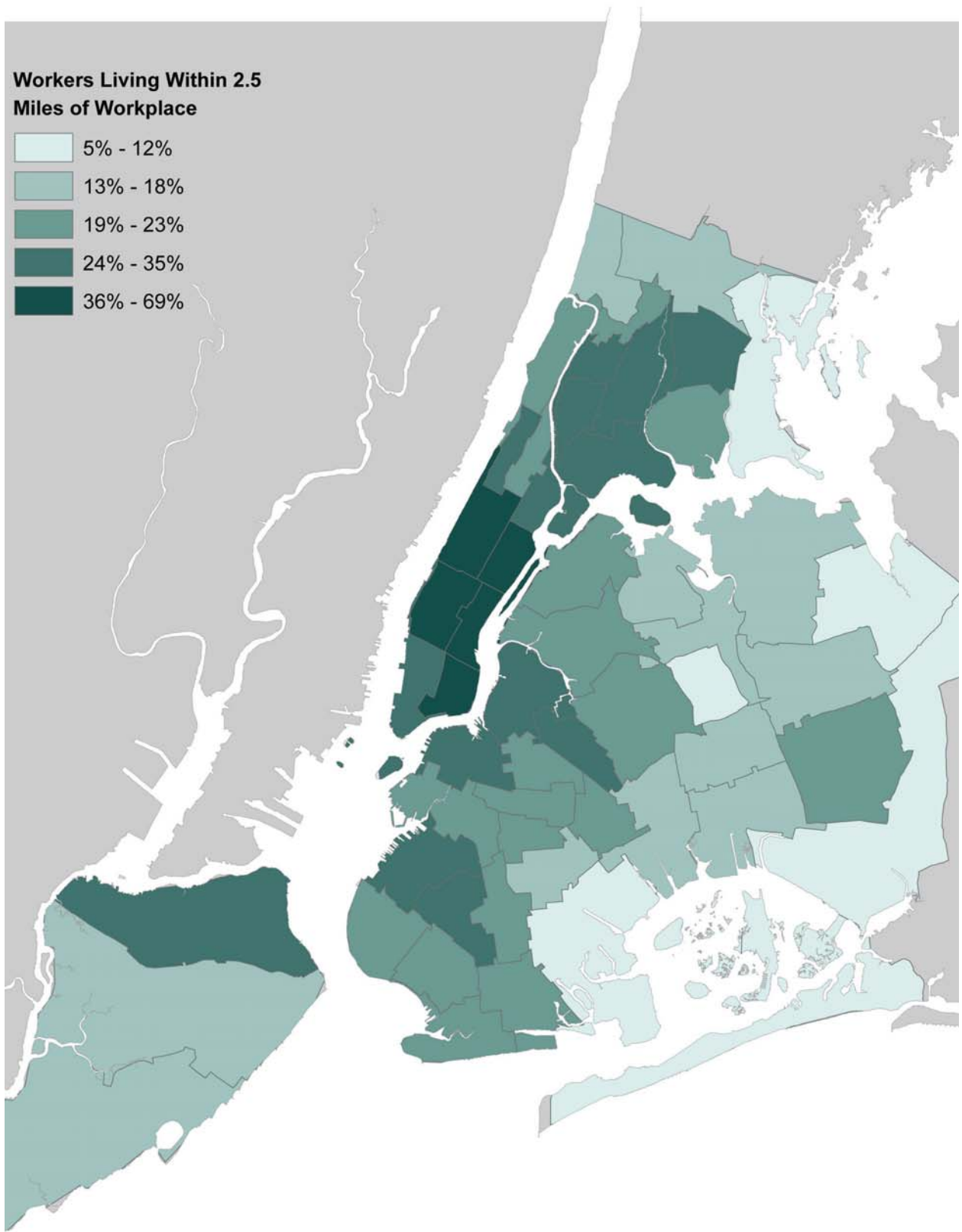
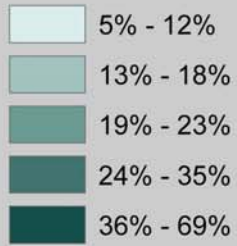
Potential Commuter Demand

	Currently Bike or Walk	Live Within 2.5 Miles of Work	Live Within 5 Miles of Work
Total Number of New Yorkers	368,800	831,400	1,446,400
3% Uptake	11,064	24,942	43,392
6% Uptake	22,128	49,884	86,784
9% Uptake	33,192	74,826	130,176

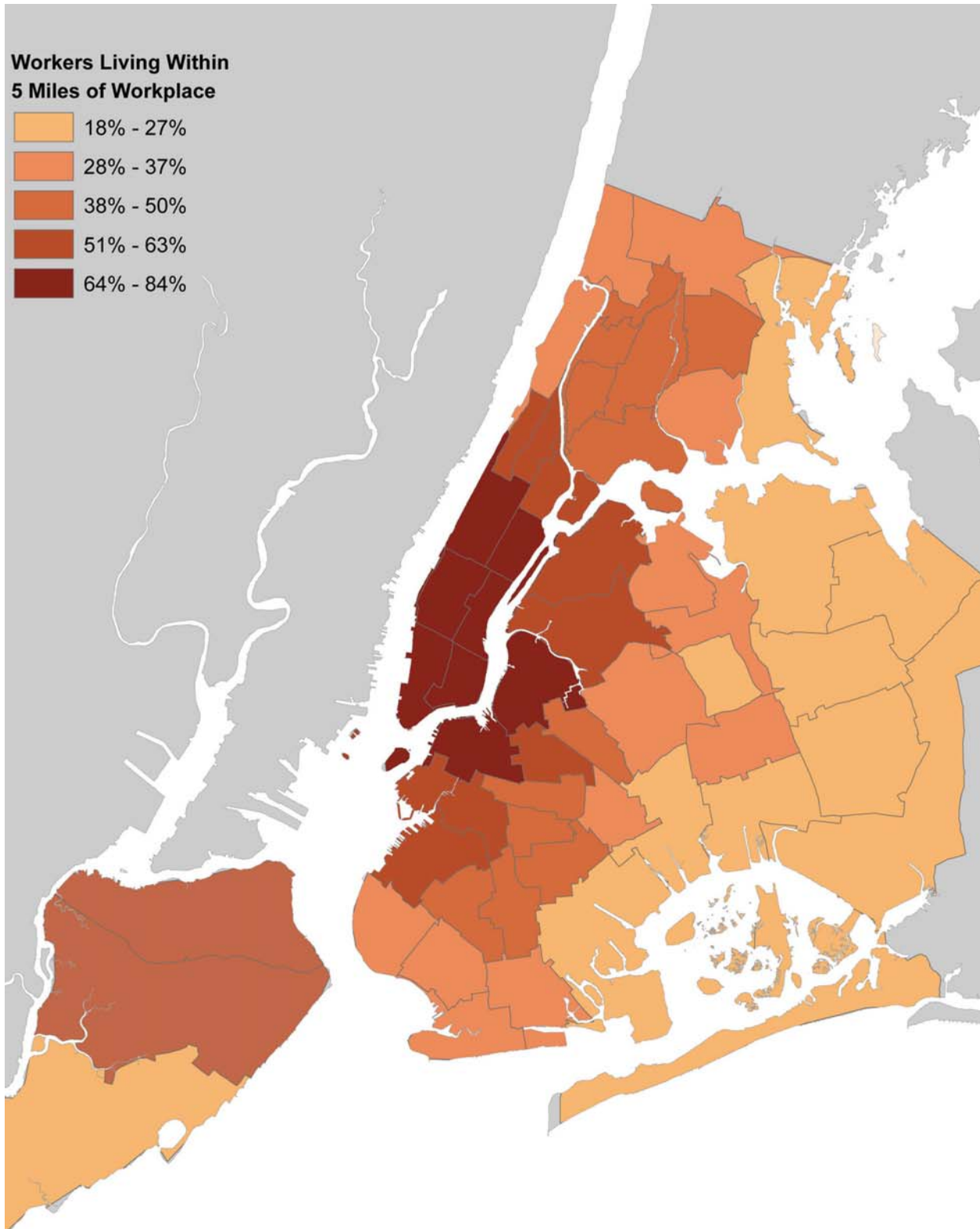


Many Manhattan and NW Brooklyn residents currently walk or bike to work. Data from the 2000 US Census.

Workers Living Within 2.5 Miles of Workplace



The majority of New Yorkers live and work in the same borough. In Manhattan, more than 25% of residents south of 110th Street live within a 2.5 mile radius of their place of work. Data from the 2000 US Census.



More than 1/2 of Manhattan residents south of 168th Street, Astoria, LIC and Northwest Brooklyn residents live within a 5 mile radius of their place of work. Data from the 2000 US Census.

In addition, out-of-city commuters may also be potential bike-share users. In Paris, 33% of the Velib’ commuter population lives in the Parisian suburbs.³³ In New York City, such commuter ridership could also be substantial. Over 552,000 commuters come into New York City daily on MetroNorth, LIRR, NJTransit, and the PATH trains or through the Port Authority Bus Terminal.³⁴ Many of these commuters enter the city at major hubs and then take the subway to their final destinations. At a 3-9% uptake rate from New York’s out-of-city commuters, 17,000 to 50,000 additional people would subscribe to a citywide New York bike-share program.

Potential Commuter Demand (Including Out-of-City Commuters)

	Current bikers/walkers + Out-of-City	Within 2.5 Miles + Out-of-City	Within 5 Miles + Out-of-City
Total Commuters w/in Biking Distance	368,800	831,400	1,446,400
3% Uptake	11,064	24,942	43,392
6% Uptake	22,128	49,884	86,784
9% Uptake	33,192	74,826	130,176

33 Velib’ Website, “Now We Know You Better;” (http://www.velib.paris.fr/les_newsletters/10_aujour_dhui_nous_vous_connaissons_mieux); Accessed 8/26/08

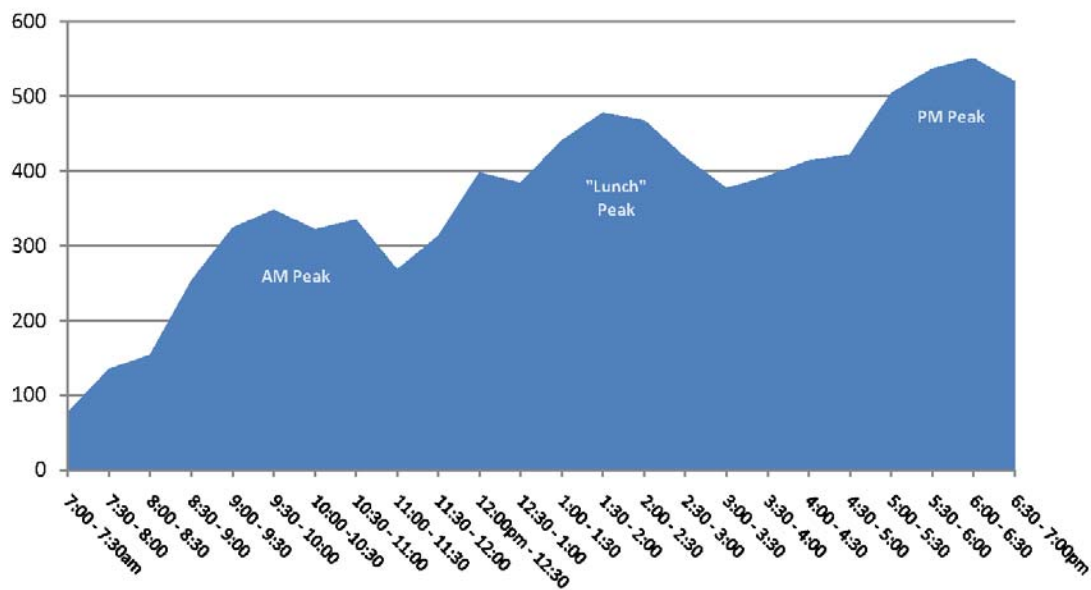
34 Daily Ridership: MetroNorth: 132,000 people; LIRR: 100,000 people; NJTransit: 70,000 people; PATH: 50,000+; PA Bus Terminal: 200,000 people

Recreational/Errand Users:

The uptake rate for recreational or errand users is difficult to estimate from existing data since there is little information about how many such trips are currently undertaken by bicycle in New York. In Paris, recreational or errand users make up 39% (74,000 people) of the total number of annual pass holders or 3% of total population of Paris. In New York City, almost one million people commute into Manhattan south of 59th Street daily from other places in the five boroughs. Of those people, commuters who live further than a reasonable bicycling distance from work might still purchase annual bike-share membership to run errands during the day or after work, expand the range of their lunch options, or reduce travel time between meetings held in different locations. In New York City, at a 3% uptake rate of the total population, 250,000 people would use a citywide bike-share program. At 6%, 492,000 people would subscribe; at 9%, a New York City bike-share program could expect 738,000 recreational/errand subscribers.

As can be seen from bicycle counts conducted by DCP, DOT and NYMTC throughout the year, bicycles in New York are used throughout the day. DCP's annual Fall bicycle counts, shows three bicycling peaks, AM, "Lunch" and PM. The AM and PM peaks resemble transportation ridership peaks associated with other modes of transit and seem to correspond to the typical 9-5 work day. Atypical is the "Lunch" peak which begins at noon and goes until 3pm. Interestingly, bicycle use overall increases over the course of the day, with substantially more bicyclists counted in the evening than in the mornings.

Bicycling Patterns throughout the Day
Total Number of Cyclists on On-Street Bike Paths (DCP 2007)

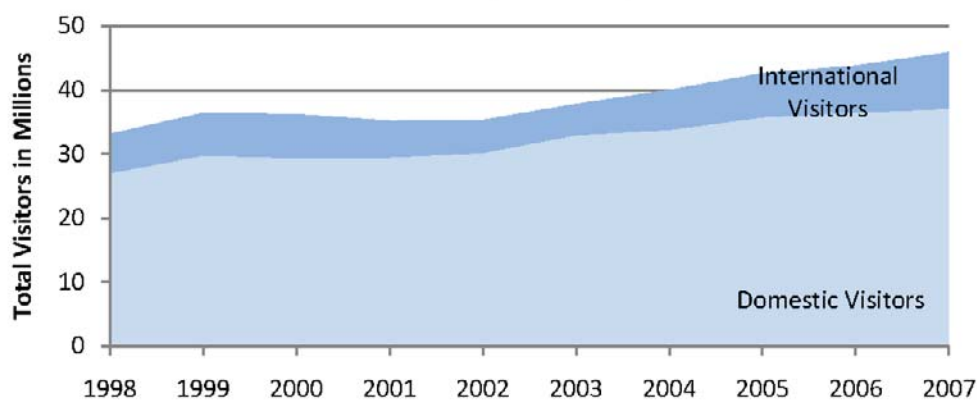


Tourists:

Visitors to New York represent another large population of potential bike-share users. Within the first six months, the Velib’ program sold 2.5 million one day (essentially “visitor”) passes. In 2006, over 27 million visitors came to Paris, slightly more than half for tourism or leisure purposes.³⁵ In contrast, New York received 43.8 million visitors in 2006 and 47 million visitors in 2008, about 75% of whom came for leisure purposes.³⁶ Of those coming for leisure, 25% are visiting friends and/or family. The remaining 75%, 24.6 million visitors in 2006, came either as tourists or for errands. Bike-share programs, which provide an active, above ground way to see the city as well as access to out of the way areas, could be a valuable amenity for such visitors.

The number of tourists to New York has been steadily growing over the past decade and the city is well on its way to meeting its goal of 50 million visitors by 2010 set by Mayor Bloomberg. At 3% uptake rate of visitors coming for tourism purposes, a New York City bike-share program could anticipate 1.4 million tourist users annually. At a 6%, a New York City bike-share program could anticipate 2.6 million tourist users annually, at the 2006 tourism level. At 9%, a New York City bike-share program could expect almost 4 million users in the first year.

Visitors to New York City
1998-2007 (NYC & Co)



International tourists are an important part of New York City’s tourism market, making up about 16% of the total visitors in 2006. Unlike domestic visitors, who tend to come to the city for short periods (86% stay for less than 4 days) and may only be in town for an afternoon to run errands, international visitors tend stay in New York longer (73% stay for more than 4 days).³⁷ The international tourists also tend to travel into the boroughs and seem to be more willing to use the city’s public transit system.³⁸

35 Velib’ Website, “Velib Press Kit;” (www.velib.fr); Accessed 8/26/08, p.11

36 NYC & Company Website, “NYC Statistics;” (<http://nycvisit.com/content/index.cfm?pagePkey=57>); Accessed 9/8/08

37 NYC & Company, “Leisure Travel to New York City in 2007;” NYC & Company, 17 September, 2008

38 Keren, Donna, Senior Vice President, Research & Analysis, NYC & Co.; Phone Interview: 23 June, 2008

Western Europeans make up the majority of New York’s international visitors, followed closely by tourists from Canada and Japan.³⁹ These countries, as well as New York’s emerging international markets like Brazil (+66%), Australia (+51%), India and Argentina (+47% each), and Russia (+28%), often have bicycling cultures that could translate into ridership for a bike-share program.⁴⁰ With the U.S. dollar declining against the Euro (as of Sept. 29th, 2008, \$1 = 0.7€), overseas tourists, especially from Europe have increasingly been making New York City one of their top vacation destinations.

Other Estimate Models: Population Density

The potential demand for a bike-share program could also be assessed by looking at medium and high density areas (32,000 people or more/square mile) in New York. Since roughly ¾ of the city’s population (just over 6 million people) lives on about 1/3 of the total land mass (116 square miles), targeting a bike-share program in high density areas would be an effective way to provide access to the most people at the least cost.

At a 3% uptake rate for New York’s high density areas, a bike-share program could expect 185,000 New York City residents to subscribe. At a 6% uptake rate for New York’s high density areas, a bike-share program could expect 369,000 New York City residents to subscribe. Using a 9% uptake rate, 554,000 New Yorkers could be expected to subscribe. As outlined above, a New York City bike-share program could also anticipate subscription by 11,000-33,000 out-of-city commuters who come into the city by rail and 1.4-4 million tourists annually.

In addition, a bike-share program that covered Manhattan’s business core could potentially see use from New York City residents who live, but do not work, in the coverage area. Such users could use the bike-share to complete their journey to and from work (especially workers on the far east or west sides), or to make trips and run errands during lunch hour or after work. Potential ridership could be significant. Almost 1 million New York City residents work in Manhattan south of 59th Street but do not live in the area.

In all cases, the uptake rate for a New York City bike-share program will likely be dependent on pricing.

Estimated Users vs. City Population

Estimated Number of Users	% of High-Density Areas	% of City Population
185,000	3%	2.2%
369,000	6%	4.4%
554,000	9%	6.7%

39 NYC & Company Website, “NYC Statistics,” (<http://nycvisit.com/content/index.cfm?pagePkey=57>); Accessed 5/21/08

40 NYC & Company, “FYI: Preliminary Forecast-Visitor Volume 2007&2008 New York City Briefing Sheet,” NYC & Company, 29 May, 2008