NEW YORK CITY DOT Department of Transportation
POLLY TROTTENBERG, Commissioner

2013 NYC In-Season Cycling Indicator

An Estimate of Trends in Regular Cycling for Transportation

Estimating trends in regular bicycle use in NYC requires the field collection of bicycle volume data, as there are few robust sources of survey data available. The replacement of the long form of the decennial U.S. Census with the American Community Survey – which has a much lower sample size and is not strictly comparable with earlier Census surveys – has exacerbated this knowledge gap. These sources omit regular non-work trips, and do not accurately count work trips made by commuters who use multiple modes, such as commuters who commute by subway 3 days a week and by bicycle 2 days a week. DOT has developed an indicator that makes use of the most robust data available to estimate levels of commuter[1] cycling over time.

Since 1985, DOT has been conducting an annual 12 hour count of cyclists entering and exiting the center of Manhattan. Known as the NYC Bicycle Screenline Count, it includes counts of cyclists crossing the four East River bridges, entering and exiting the Staten Island Ferry at the Whitehall Terminal and each avenue and the Hudson River Greenway at 50th Street. It is the most robust, long-term count in NYC and is the basis of the NYC In-Season Cycling Indicator, however it was conducted only once per year.

In 2007, DOT began conducting the screenline three times per year. Beginning in 2008, DOT augmented the three screenline counts with 7 monthly counts from April to October, for a total of 10 counts per year conducted during the cycling season.

The historic screenline data is adapted and blended with more robust current counts to become an indicator through four primary steps:

1. Removing Irregular, Primarily Non-Commuter Data

An analysis of the avenue data from the screenline count at 50th Street showed that cyclist volumes fluctuated significantly from year to year and that the daily peaks were in the middle of the day. This and the fact that 50th Street is in the heart of the midtown central business district indicates that much of the cyclist volume crossing 50th Street is made up of working cyclists (messengers and food delivery), the volume of which is dependent on certain kinds of economic activity and are not commutation trips. Therefore, the NYC In-Season Cycling Indicator excludes the avenue counts and uses solely the counts of the four East River Bridges, Hudson River Greenway and cyclists entering and exiting the Staten Island Ferry at Whitehall Terminal. The bicycle counts on the bridges, ferry and on the Hudson River Greenway show less variability and because they are limited access facilities; they indicate that a cyclist is taking a long trip rather than the typically short trip of a working cyclists.

2. Creating a Historical Proxy for the Hudson River Greenway

Since the first count was taken in 1980, the Hudson River Greenway and the Manhattan Bridge bicycle path were added to the inventory of cycling facilities. The Manhattan Bridge serves a similar market of cycling as the nearby Brooklyn Bridge. For many cyclists, the Hudson River Greenway provides an alternative to nearby avenues. Therefore, to keep the indicator as a conservative estimate of commuter

(1) In 2012, the count that is typically conducted in April was conducted in early May.

cyclist volumes over time, counts for Ninth, Tenth, Eleventh and Twelfth Avenues are included in the indicator up to the year 2000. In 2001, when an interim version of the Hudson River Greenway opened, these avenues are dropped from the indicator.

The results of step one and two are the raw data that compose the indicator and are attached in chart and table form.

3. Adjust for Annual Volatility of Counts

One drawback of the screenline count has been that it is conducted on a single day during the summer and thus may not be a robust indicator of a given year's cyclist volume. Beginning in 2007, the count is conducted three times per year (spring, summer, fall) and since 2008 there are now 10 counts per year. To account for the volatility prior to 2007, the indicator is based on an average of the given year's count and the counts of the preceding and subsequent years.

4. Index Count to Base 100 for Year 2000

Since the count is not a count of all cyclists in New York City, it is important that it be clear that the indicator is the best estimate of trends in cycling levels in the City over time. Thus, rather than presenting the number of cyclists counted, an index is created using the year 2000 as a baseline. All values for each year have been divided by the value for the year 2000 and multiplied by 100. Indexing the year 2000 to 100 allows for simple comparisons between values.

Indicator Results

Despite the conservative removal of the westerly avenues from the indicator in 2001, the indicator shows a clear and accelerated growth in regular cycling in New York City from 2006 to 2013. The table below illustrates the changing cycling conditions.

NYC In-Season Cycling Indicator for Selected Years

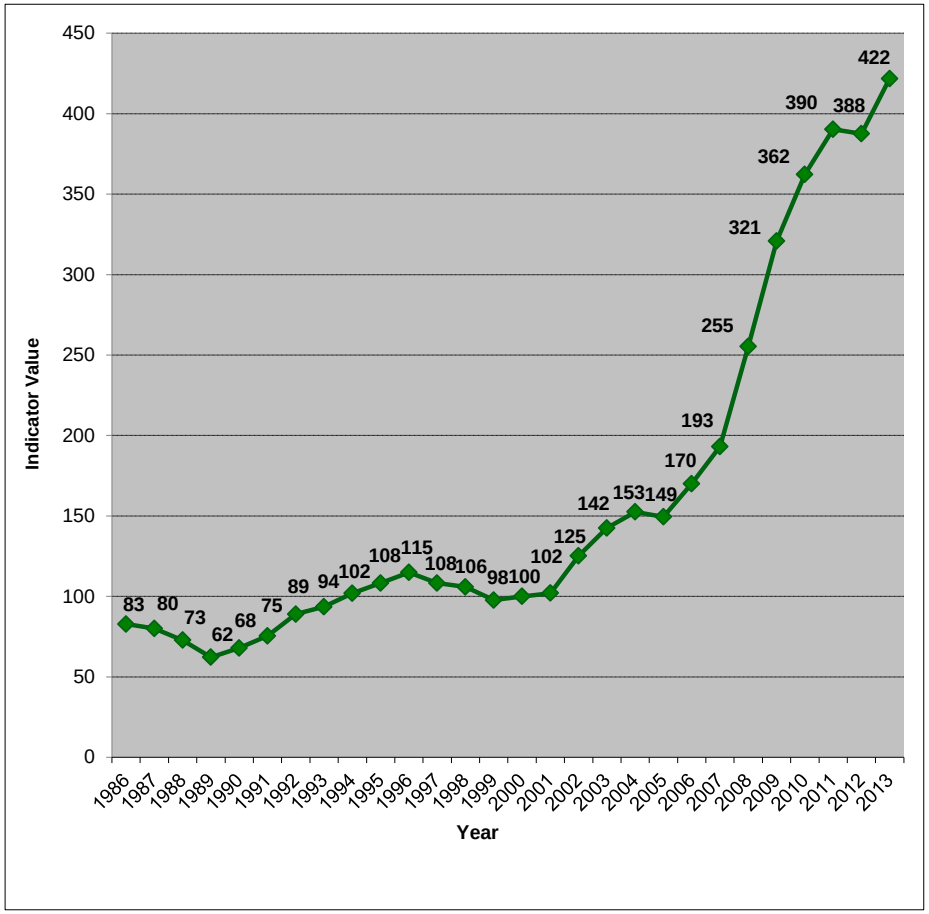
Year	Indicator
1986	83
1990	68
1995	108
2000	100
2005	159
2006	173
2007	193
2008	255
2009	321
2010	362
2011	390
2012	388
2013	422

NYC In-Season Cycling Indicator

Based on Counts at Selected Commuter Locations

Indexed to Year 2000 = 100

Year	Value for Indicator	Index of Value for Indicator: 100 for Yr 2000	Year to Year Growth (% Change)	Year to Year Growth (Cyclists Counted)
1986	3,997	83	n/a	n/a
1987	3,867	80	-3%	-130
1988	3,513	73	-9%	-354
1989	3,005	62	-14%	-508
1990	3,277	68	9%	272
1991	3,645	75	11%	368
1992	4,294	89	18%	649
1993	4,518	94	5%	224
1994	4,918	102	9%	400
1995	5,229	108	6%	311
1996	5,551	115	6%	322
1997	5,229	108	-6%	-322
1998	5,114	106	-2%	-115
1999	4,716	98	-8%	-398
2000	4,829	100	2%	113
2001	4,927	102	2%	98
2002	6,046	125	23%	1,119
2003	6,879	142	14%	834
2004	7,366	153	7%	486
2005	7,215	149	-2%	-151
2006	8,208	170	14%	993
2007	9,327	193	14%	1,118
2008	12,328	255	32%	3,001
2009	15,495	321	26%	3,167
2010	17,491	362	13%	1,996
2011	18,846	390	8%	1,356
2012	18,717	388	-1%	-129
2013	20,372	422	9%	1,654



Notes:

1. Value for Indicator comes from weekday 12 hour (7am-7pm) counts at 6 key NYC locations
2. From 1985 until 2006, this count was taken only once per year. Due to volatility the "Value for Indicator" in this period is the average of the current year's count and the count of the prior and subsequent years
3. The value for 2007 is the average of 3 counts taken in May, August & September
4. The value for 2008-2011 and 2013 is the average of 10 counts taken between April and October
5. The value for 2012 is the average of 10 counts taken between May and October

NEW YORK CITY DOT

Bicycle Program

New York City Cyclist Counts At Selected Commuter Locations
Weekday Counts, 7am to 7pm

	Facility						
Count	**Staten Island Ferry**	**Brooklyn Bridge**	**Manhattan Bridge**	**Williamsburg Bridge**	**Ed Koch Queensboro Bridge**	**Hudson River Greenway at 50th St.**	**Grand Total**
1980	207	623	N/A	146	344	761	2,081
1985	231	913	N/A	392	759	1,145	3,440
1986	224	1,542	N/A	420	780	1,256	4,222
1987	327	1,633	N/A	368	436	1,565	4,329
1988	244	988	N/A	282	330	1,206	3,050
1989	202	690	N/A	240	423	1,606	3,161
1990	170	1,075	N/A	248	227	1,084	2,804
1991	341	1,183	N/A	N/A	602	1,741	3,867
1992	290	1,073	N/A	362	737	1,802	4,264
1993	293	1,193	N/A	361	709	2,196	4,752
1994	241	1,305	N/A	439	672	1,881	4,538
1995	386	1,715	N/A	664	964	1,736	5,465
1996	387	1,613	N/A	791	1,314	1,579	5,684
1997	318	1,698	N/A	1,022	786	1,679	5,503
1998	335	1,115	N/A	966	692	1,392	4,500
1999	366	1,109	N/A	1,004	820	2,039	5,338
2000	389	762	N/A	733	546	1,880	4,310
2001	253	867	147	792	667	2,113	4,839
2002	104	981	546	1,117	517	2,366	5,631
2003	354	1,049	661	1,387	1,331	2,885	7,667
2004	303	1,422	856	974	1,099	2,686	7,340
2005	290	1,349	829	1,609	976	2,037	7,090
2006	105	1,284	1,578	2,566	1,158	1,958	8,649
2007 (avg.)	**252**	**1,626**	**1,313**	**2,257**	**1,292**	**2,586**	**9,327**
May	341	1,574	1,280	1,644	1,100	2,404	8,343
August	266	1,689	1,522	2,284	1,244	2,392	9,397
September	149	1,616	1,137	2,842	1,533	2,963	10,240
2008 (avg.)	**235**	**1,688**	**2,210**	**2,903**	**1,891**	**3,400**	**12,328**
April	153	1,325	2,058	2,855	1,538	2,795	10,724
May	194	1,776	2,960	2,840	2,116	1,880	11,766
May*	188	1,728	2,609	2,743	2,001	2,384	11,653
June	132	1,638	2,557	2,931	1,704	3,276	12,238
July	212	1,594	1,955	2,884	2,194	3,666	12,505
August	318	1,642	2,073	3,021	2,116	4,185	13,355
August*	373	1,781	2,127	2,864	1,836	4,581	13,562
September	269	1,991	2,302	3,081	2,092	4,040	13,775
September*	312	1,892	1,960	3,397	1,377	3,597	12,535
October	203	1,512	1,497	2,416	1,940	3,599	11,167
2009 (avg.)	**256**	**2,294**	**2,606**	**3,823**	**2,225**	**4,289**	**15,495**
April	185	1,585	1,828	3,202	1,660	2,309	10,769
May	209	2,601	2,371	3,420	1,751	3,840	14,192
May*	143	1,845	2,385	3,423	1,676	3,287	12,759
June	161	2,504	2,245	3,802	2,396	4,426	15,534
July	339	2,943	2,624	4,200	2,963	4,329	17,398
August*	309	2,376	2,365	3,966	2,423	5,520	16,959
August	345	2,505	3,821	3,941	2,641	4,970	18,223
September*	332	2,172	2,683	4,330	2,556	5,440	17,513
September	272	1,930	2,778	4,038	2,016	4,419	15,453
October	268	2,479	2,962	3,911	2,172	4,354	16,146
2010 (avg.)	**378**	**2,153**	**2,984**	**4,296**	**2,626**	**5,055**	**17,491**
April	356	2,062	2,404	3,909	2,235	4,452	15,418
May	403	2,466	3,453	4,076	2,574	6,190	19,162
May*	354	2,212	2,929	3,934	2,173	3,985	15,587
June	237	1,376	2,407	3,845	2,590	5,230	15,685
July	427	2,104	2,646	3,891	2,020	4,213	15,301
August*	284	2,528	2,771	5110	3,070	6,372	20,135
August	492	2,306	2,990	4,866	3,035	5,055	18,744
September	403	1,938	3,402	4,408	3,355	5,125	18,631
September*	399	2,683	3,366	4,693	2,619	5,629	19,389
October	427	1,853	3,467	4,226	2,586	4,294	16,853
2011 (avg.)	**368**	**2,322**	**3,617**	**4,515**	**2,904**	**5,120**	**18,846**
April	436	2,630	2,714	4,612	2,443	5,161	17,996
May	295	2,463	4,207	4,215	2,528	5,262	18,970
May*	365	2,668	4,286	4,264	2,164	5,267	19,014
June	418	2,145	3,954	4,709	2,467	5,561	19,254
July	445	2,104	3,648	4,614	2,624	4,876	18,311
August	381	2,755	3,696	5,007	3,558	6,032	21,429
August*	346	2,514	3,067	4,479	3,433	5,486	19,325
September	308	2,217	3,326	4,402	3,311	4,300	17,864
September*	386	1,896	3,849	4,235	3,333	5,676	19,375
October	296	1,830	3,425	4,614	3,182	3,578	16,925
2012 (avg.)	**250**	**2,297**	**3,770**	**4,488**	**2,638**	**5,273**	**18,717**
May*~	146	1,573	3,017	3,546	2,199	5,573	16,054
May (A)	134	2,111	4,215	4,089	2,397	4,747	17,693
May (B)	162	2,150	3,851	4,817	2,311	6,191	19,482
June	355	2,768	3,955	3,688	2,693	5,272	18,731
July	325	2,760	4,182	5,176	2,744	4,879	20,066
August	379	2,852	3,993	5,091	3,330	6,231	21,876
August*	384	2,568	3,749	4,745	3,416	6,170	21,032
September	219	1,931	3,730	5,157	2,687	5,452	19,176
September*	174	2,022	3,837	4,560	2,535	4,622	17,750
October	226	2,239	3,174	4,006	2,071	3,596	15,312
2013 (avg.)	**262**	**2,684**	**4,173**	**5,288**	**2,843**	**5,122**	**20,372**
April	288	1,615	3,130	4,317	3,001	2,559	14,910
May	326	2,587	4,208	5,335	2,897	5,254	20,607
May*	414	2,666	4,402	5,342	2,946	5,461	21,231
June	237	2,616	3,972	5,103	2,443	5,332	19,703
July	172	2,396	3,923	4,689	2,673	5,521	19,374
August	275	3,261	4,927	5,986	3,572	6,387	24,408
August*	297	3,094	4,644	5,718	2,178	6,255	22,186
September*	159	2,912	3,926	5,735	3,112	5,308	21,152
September	292	2,703	4,196	5,628	2,645	4,108	19,572
October	155	2,993	4,404	5,026	2,959	5,035	20,572

Notes:

1. Count is on a single mid-summer weekday from 7am to 7pm from 1980, and 1985-2006
2. There is no data available for 12th Avenue in 1986 and the Williamsburg Bridge in 1991
3. The Hudson River Greenway and Manhatan Bridge path opened to cycling in 2001
4. For years prior to availability of the Hudson River Greenway, data for 9th, 10th, 11th and 12th avenues are shown as a proxy

* Count is from the DOT Screenline Count which is done three times per year

~ No April count was conducted in 2012. This May count is a substitute for the April count.

NEW YORK CITY DOT

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New York City Cyclist Counts by Year

Weekday Counts, 7am to 7pm, At Selected Commuter Locations

	Facility							
Year	**Staten Island Ferry**	**Brooklyn Bridge**	**Manhattan Bridge**	**Williamsburg Bridge**	**Ed Koch Queensboro Bridge**	**Hudson River Greenway at 50th St.**	**9th, 10th, 11th, 12th Avenues at 50th St.**	**Grand Total**
1980	207	623	N/A. See Note	146	344	N/A. See Note	761	**2,081**
1981-1984	N/A	N/A		N/A	N/A		N/A	**N/A**
1985	231	913		392	759		1,145	**3,440**
1986	224	1,542		420	780		1,256	**4,222**
1987	327	1,633		368	436		1,565	**4,329**
1988	244	988		282	330		1,206	**3,050**
1989	202	690		240	423		1,606	**3,161**
1990	170	1,075		248	227		1,084	**2,804**
1991	341	1,183		N/A	602		1,741	**3,867**
1992	290	1,073		362	737		1,802	**4,264**
1993	293	1,193		361	709		2,196	**4,752**
1994	241	1,305		439	672		1,881	**4,538**
1995	386	1,715		664	964		1,736	**5,465**
1996	387	1,613		791	1,314		1,579	**5,684**
1997	318	1,698		1,022	786		1,679	**5,503**
1998	335	1,115		966	692		1,392	**4,500**
1999	366	1,109		1,004	820		2,039	**5,338**
2000	389	762		733	546		1,880	**4,310**
2001	253	867	147	792	667	2,113	Removed From Indicator. See Notes.	**4,839**
2002	104	981	546	1,117	517	2,366		**5,631**
2003	354	1,049	661	1,387	1,331	2,885		**7,667**
2004	303	1,422	856	974	1,099	2,686		**7,340**
2005	290	1,349	829	1,609	976	2,037		**7,090**
2006	105	1,284	1,578	2,566	1,158	1,958		**8,649**
2007	252	1,626	1,313	2,257	1,292	2,586		**9,327**
2008	235	1,688	2,210	2,903	1,891	3,400		**12,328**
2009	256	2,294	2,606	3,823	2,225	4,289		**15,495**
2010	378	2,153	2,984	4,296	2,626	5,055		**17,491**
2011	368	2,322	3,617	4,515	2,904	5,120		**18,846**
2012	250	2,297	3,770	4,488	2,638	5,273		**18,717**
2013	262	2,684	4,173	5,288	2,843	5,122		**20,372**

Notes:

1. Count is on a single mid-summer weekday from 7am to 7pm from 1980, and 1985-2006
2. There is no data available for 12th Avenue in 1986 and the Williamsburg Bridge in 1991
3. The value for 2007 is the average of 3 counts taken in May, August & September
4. The value for 2008-2011 and 2013 is the average of 10 counts taken between April and October
5. The value for 2012 is the average of 10 counts taken between May and October
6. The Hudson River Greenway and Manhatan Bridge path opened to cycling in 2001
7. For years prior to availability of the Hudson River Greenway, data for 9th, 10th, 11th and 12th avenues are shown as a proxy

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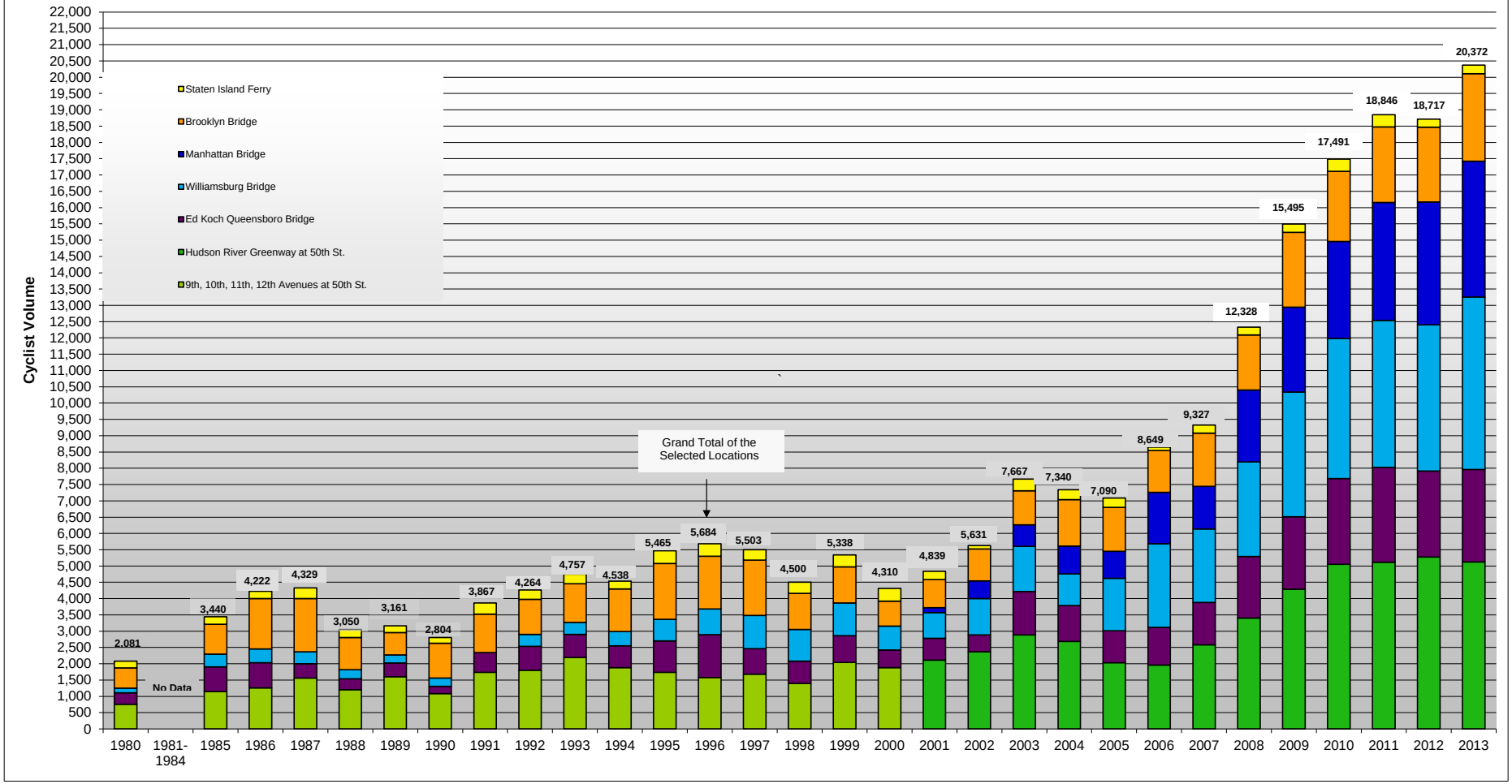
Bicycle Program

New York City Cyclist Counts at Selected Commuter Locations

Weekday, 7AM to 7PM, 1980-2013



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6. For years prior to availability of the Hudson River Greenway, data for 9th, 10th, 11th and 12th avenues are shown as a proxy
7. 9th through 12th Avenues is removed from the count from 2001 forward when the Hudson River Greenway enters the count
8. The value for 2012 is the average of 10 counts taken between May and October