

Bicycle Rack Inventory and  
Bicycle Counts  
Metro-North Railroad Stations  
Westchester County, New York  
September, 2012

Westchester County  
Department of  
Public Works and Transportation

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Introduction

Biking to train stations has increased in Westchester County as more storage facilities have been added at stations, and residents have become increasingly aware of the health and environmental benefits of cycling. Riding to a station saves money, as it is less expensive than the cost of driving and parking a car. Bike parking also requires less space than is needed for a car, and facilitating greater bike access can reduce the need to expand parking at suburban railroad stations. Parking is also limited at many stations and there are waiting lists to obtain a parking permit.

From July, 2011 to August, 2012, during five different time periods, the Westchester County Department of Public Works and Transportation undertook comprehensive bike counts at railroad stations on the Metro-North Hudson, Harlem and New Haven Lines. The results demonstrated that bicycling is more than a recreational pastime in Westchester County; rather, it has become a consistent mode of transportation. The counts showed that bike use held steady throughout the seasons, except for a slight dip in December. Bike use also increased on all three lines during the observation period, as shown below.

<b>Total Number of Bikes Observed</b>					
<b>MNR Line</b>	<b>July, 2011</b>	<b>Sept., 2011</b>	<b>Dec., 2011</b>	<b>May, 2012</b>	<b>Aug., 2012</b>
<b>Hudson</b>	49	60	41	40	54
<b>Harlem</b>	131	156	151	162	164
<b>New Haven</b>	193	193	188	227	205
<b>TOTAL</b>	<b>373</b>	<b>409</b>	<b>380</b>	<b>429</b>	<b>423</b>

Motor scooters were also observed at the stations during three time periods. Though the absolute number of scooters was not as great as the number of bikes, there was a marked increase in the number observed during the period of the survey: from 36 in December, 2011, to 65 on all three lines in August, 2012. A number of stations had reserved spaces for the scooters; Peekskill (3), Cortlandt (18) and Bronxville (5), as of August, 2012. A few motorcycles were observed and they are included in the scooter counts.

<b>Total Number of Motor Scooters Observed</b>			
	<b>Dec., 2011</b>	<b>May, 2012</b>	<b>Aug., 2012</b>
<b>Hudson Line</b>	1	7	10
<b>Harlem Line</b>	19	29	33
<b>New Haven Line</b>	16	17	22
<b>TOTAL</b>	<b>36</b>	<b>53</b>	<b>65</b>

**Summary by Metro-North Rail Line**

New Haven Line

While the New Haven Line has the fewest number of stations (8) in Westchester County, it had the second highest number of bike racks (32), the highest bike rack capacity (253) and the highest bike usage for all five of the reporting periods: July, 2011(193); September, 2011 (193); December, 2011 (188); May, 2012 (227) and August, 2012 (205).

All eight stations on the line had at least one rack with Larchmont having the most (15), not only on the New Haven line, but in the entire Metro-North system in Westchester County. Of the approximately 253 bike parking spaces on the New Haven Line, roughly half (127) were at Larchmont.

The stations with the most bikes observed on the New Haven Line were Larchmont (75), followed by Mamaroneck (40), Pelham (39), New Rochelle (34) and Harrison (28).

Selected Station Photographs

Larchmont



Port Chester



New Rochelle



Pelham



## Harlem Line

Of the three rail lines in Westchester County, the Harlem Line has the most stations (20). Of these, all but five had at least one bike rack. These were: Mount Vernon West, Fleetwood, Valhalla, Mount Pleasant and Croton Falls. There were a total of 42 racks on the line with an estimated capacity of 231 bikes. The largest number of racks on the Harlem Line was found at the Scarsdale station, where there were 9, with an estimated capacity of 46 bikes. The White Plains station came in second with 7 racks, and an estimated capacity of 43 bikes. Bike usage was also less than on the New Haven line, ranging from 131 bikes in July, 2011, to 164 bikes in August, 2012.

Scarsdale had the most bikes observed during each time period, ranging from 37-41 bikes. This was followed by White Plains (32), Bronxville (20), Mount Kisco (18), and Hartsdale (17). Fewer than 10 bikes were counted at other stations on the Harlem Line during each time period.

## Selected Station Photographs

### Bronxville



Bronxville (continued)



White Plains



Scarsdale



### Hudson Line

The Hudson Line stations had the fewest bikes of the three Metro-North Lines. This was likely due to the steep grades leading to the stations along the Hudson River. Bicycle use ranged from 40 in May of 2012, to 60 in September of 2011. Three of the 15 stations on the Hudson Line in Westchester County did not have bike racks – Ludlow, Glenwood and Greystone. There were a total of 23 racks with an estimated capacity of 134 bikes. The station with the most racks was Croton-Harmon with 5 racks, having an estimated capacity of 34 bikes. The greatest number of bikes was also observed at Croton-Harmon, which was as high as 22 during any time period. Fewer than 10 bikes were counted at any of the other stations. At Croton-Harmon, an individual bike storage unit was observed, as shown in the photos below.

### Selected Station Photographs

#### Cortlandt



Croton-Harmon



Hastings-on-Hudson



### Bicycle Parking Issues

Various conditions were observed regarding where people parked their bikes at Metro-North stations.

The locations of racks varied among the stations. Where there were no racks, people secured their bicycles to railings and sign posts in the immediate vicinity of the station. However, even where suitable racks were found, bikes were frequently noticed locked to railings and sign posts instead of the racks. This could indicate that people leave their bikes where it is most convenient for either boarding a train in the morning, or closest to where they detrain in the evening. It could also suggest that bike riders may not be aware that there are bike parking spaces units at the train stations. If this is the case, the racks may not have been placed at the most convenient and noticeable site. In addition, no signage was observed directing riders to the bike racks at any of the stations.

The following recommendations should be considered regarding bicycle parking.

- Bike racks need to be properly maintained if they are to be used continually. The ability to withstand adverse weather and ease of maintenance should be considered in selecting the type of rack to be installed.
- Racks that are installed parallel to a building wall or station platform allow the placement of bikes on only one side of the rack, whereas racks installed perpendicular to a wall or station platform allow for placement of bikes on both sides.
- Where there is access to both the inbound and outbound tracks from either side of the station, installation of racks should be considered for both sides of the station.
- Standard signage indicating the location of the bike racks would promote awareness of them at each station. The signage should be placed at visible locations where cyclists are likely to approach each station.
- To accommodate the growing use of motorized scooters, specific parking areas could be designated for them as well, along with appropriate directional signage.

Appendix A – Bike and Motorized Scooter Counts by Metro-North Line and Station

<b>New Haven Line</b>					<b>Number of Bikes Observed</b>														
					<b>July, 2011</b>			<b>Sept., 2011</b>			<b>Dec., 2011</b>			<b>May, 2012</b>			<b>Aug., 2012</b>		
<b>Station</b>	<b>Racks (Yes/No)</b>	<b>Number of Racks</b>	<b>Rack Capacity*</b>	<b>Inbound/Outbound</b>	<b>Racked</b>	<b>Unracked</b>	<b>Total</b>	<b>Racked</b>	<b>Unracked</b>	<b>Total</b>	<b>Racked</b>	<b>Unracked</b>	<b>Total</b>	<b>Racked</b>	<b>Unracked</b>	<b>Total</b>	<b>Racked</b>	<b>Unracked</b>	<b>Total</b>
Mount Vernon East	Yes	1	8	0 in / 1 out	0	1	1	0	1	1	0	1	1	0	1	1	0	1	1
Pelham	Yes	2	10	1 in / 1 out	2	29	31	1	33	34	0	32	32	4	35	39	5	30	35
New Rochelle	Yes	2	18	in trans center	10	24	34	12	20	32	11	11	22	11	10	21	10	10	20
Larchmont	Yes	15	127	7 in / 8 out	53	0	53	61	0	61	62	6	68	68	7	75	72	1	73
Mamaroneck	Yes	4	28	1 in / 3 out	17	16	33	18	12	30	19	21	40	13	21	34	14	18	32
Harrison	Yes	1	8	1 in / 0 out	2	17	19	1	14	15	0	3	3	0	28	28	1	18	19
Rye	Yes	2	29	0 in / 4 out	5	8	13	5	8	13	7	1	8	6	9	15	3	7	10
Port Chester	Yes	5	25	5 in / 0 out	5	4	9	5	2	7	8	6	14	7	7	14	8	7	15
<b>TOTAL</b>		<b>32</b>	<b>253</b>		<b>94</b>	<b>99</b>	<b>193</b>	<b>103</b>	<b>90</b>	<b>193</b>	<b>107</b>	<b>81</b>	<b>188</b>	<b>109</b>	<b>118</b>	<b>227</b>	<b>113</b>	<b>92</b>	<b>205</b>

\*Based on a 2x6 footprint for 12 square feet per bicycle

Harlem Line

Station	Racks (Yes/No)	Number of Racks	Rack Capacity*	Inbound/Outbound	Number of Bikes Observed															
					July, 2011			Sept., 2011			Dec., 2011			May, 2012			Aug., 2012			
					Racked	Unracked	Total	Racked	Unracked	Total	Racked	Unracked	Total	Racked	Unracked	Total	Racked	Unracked	Total	
Mount Vernon West	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fleetwood	No	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	1	1
Bronxville	Yes	8	24	5 in / 3 out	6	5	11	9	6	15	12	7	19	11	8	19	12	8	20	20
Tuckahoe	Yes	1	6	0 in / 1 out	2	0	2	2	0	2	0	1	1	1	1	2	1	1	2	2
Crestwood	Yes	2	9	1 in / 1 out	4	2	6	5	3	8	4	4	8	2	5	7	4	4	8	8
Scarsdale	Yes	9	46	3 in / 6 out	37	1	38	39	0	39	34	0	34	38	1	39	41	0	41	41
Hartsdale	Yes	2	24	1 in / 1 out	12	5	17	8	4	12	9	3	12	6	4	10	6	2	8	8
White Plains	Yes	7	43	0 in / 7 out	unk	unk	unk	24	2	26	30	2	32	29	3	32	26	3	29	29
North White Plains	Yes	1	9	0 in / 1 out	unk	unk	unk	6	1	7	5	2	7	5	2	7	6	1	7	7
Valhalla	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mount Pleasant**	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Hawthorne	Yes	1	7	0 in / 1 out	4	6	10	3	2	5	3	3	6	5	1	6	5	0	5	5
Pleasantville	Yes	1	9	1 in / 0 out	8	1	9	6	0	6	3	1	4	4	1	5	3	1	4	4
Chappaqua	Yes	1	3	0 in / 1 out	3	0	3	2	2	4	2	1	3	2	1	3	2	2	4	4
Mount Kisco	Yes	3	16	0 in / 3 out	17	0	17	15	0	15	8	1	9	17	1	18	14	3	17	17
Bedford Hills	Yes	2	10	1 in / 1 out	7	0	7	8	0	8	6	0	6	7	1	8	7	0	7	7
Katonah	Yes	2	10	1 in / 1 out	8	0	8	8	1	9	10	0	10	4	0	4	7	2	9	9
Goldens Bridge	Yes	1	10	1 in / 0 out	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Purdy's	Yes	1	5	1 in / 0 out	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Croton Falls	No	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1
<b>TOTAL</b>		<b>42</b>	<b>231</b>		<b>110</b>	<b>21</b>	<b>131</b>	<b>135</b>	<b>21</b>	<b>156</b>	<b>126</b>	<b>25</b>	<b>151</b>	<b>131</b>	<b>31</b>	<b>162</b>	<b>134</b>	<b>30</b>	<b>164</b>	<b>164</b>

\* Based on a 2x6 footprint for 12 square feet per bicycle

\*\* Located at Gate of Heaven Cemetery with limited train service

**Hudson Line**

Station	Racks (Yes/No)	Number of Rack	Rack Capacity*	Inbound/Outbo	Number of Bikes Observed															
					July, 2011			Sept., 2011			Dec., 2011			May, 2012			Aug., 2012			
					Racked	Unracked	Total	Racked	Unracked	Total	Racked	Unracked	Total	Racked	Unracked	Total	Racked	Unracked	Total	
Ludlow	No	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Yonkers	Yes	1	4	0 in / 1 out	4	0	4	3	2	5	1	0	1	2	0	2	1	0	1	
Glenwood	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Greystone	No	0	0	0	0	3	3	0	1	1	0	0	0	0	0	0	0	1	1	
Hastings-on-Hudson	Yes	1	3	0 in / 1 out	0	3	3	2	2	4	2	1	3	3	0	3	2	2	4	
Dobbs Ferry	Yes	2	9	1 in / 1 out	3	0	3	3	0	3	2	0	2	3	0	3	3	1	4	
Ardsley-on-Hudson	Yes	1	3	0 in / 1 out	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	
Irvington	Yes	1	5	0 in / 1 out	0	2	2	2	0	2	1	0	1	1	0	1	0	2	2	
Tarrytown	Yes	2	8	0 in / 2 out	8	5	13	6	5	11	4	6	10	2	4	6	7	3	10	
Philipse Manor	Yes	2	10	1 in / 1 out	0	0	0	0	0	0	3	0	3	5	0	5	3	0	3	
Scarborough	Yes	1	3	0 in / 1 out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ossining	Yes	2	13	0 in / 2 out	0	1	1	1	1	2	1	2	3	1	1	2	1	1	2	
Croton-Harmon	Yes	5	34	0 in / 5 out	15	4	19	17	5	22	10	2	12	8	3	11	17	3	20	
Cortlandt	Yes	4	38	2 in / 2 out	unk	unk	0	1	0	1	1	1	2	2	0	2	1	0	1	
Peekskill	Yes	1	4	0 in / 1 out	1	8**	1	3	5	8	2	1	3	3	2	5	2	4	6	
<b>TOTAL</b>		<b>23</b>	<b>134</b>		<b>31</b>	<b>18</b>	<b>49</b>	<b>38</b>	<b>22</b>	<b>60</b>	<b>28</b>	<b>13</b>	<b>41</b>	<b>30</b>	<b>10</b>	<b>40</b>	<b>37</b>	<b>17</b>	<b>54</b>	

\* Based on a 2x6 footprint for 12 square feet per bicycle

\*\* Ongoing construction during count period

**Number of Motor Scooters Observed**

<b>New Haven Line Station</b>	<b>Dec., 2011</b>	<b>May, 2012</b>	<b>Aug., 2012</b>
Mount Vernon East	0	0	0
Pelham	2	0	0
New Rochelle	0	0	0
Larchmont	6	1	4
Mamaroneck	3	7	8
Harrison	1	3	4
Rye	4	6	6
Port Chester	0	0	0
<b>TOTAL</b>	<b>16</b>	<b>17</b>	<b>22</b>

**Number of Motor Scooters Observed**

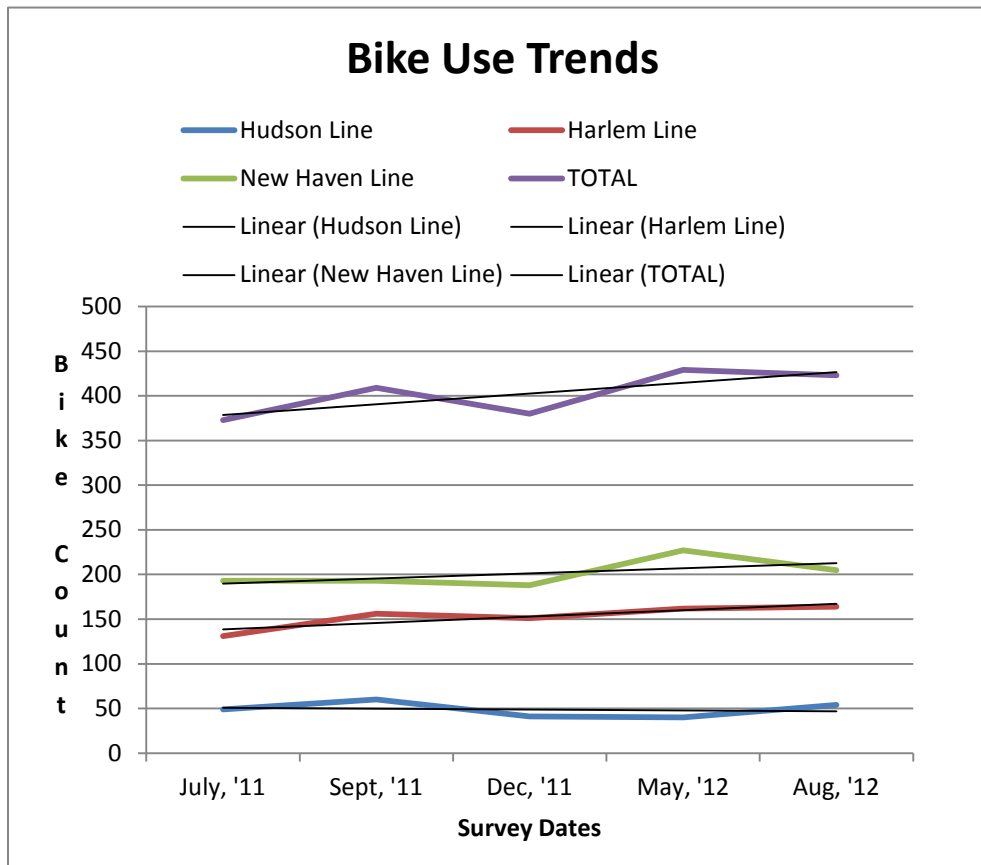
<b>Harlem Line Station</b>	<b>Dec. 2011</b>	<b>May, 2012</b>	<b>Aug., 2012</b>
Mount Vernon West	0	0	0
Fleetwood	0	0	0
Bronxville	1	4	4
Tuckahoe	0	0	0
Crestwood	0	0	0
Scarsdale	8	13	12
Hartsdale	7	8	12
White Plains	0	0	0
North White Plains	1	1	1
Valhalla	0	0	0
Mount Pleasant	0	0	0
Hawthorne	0	0	0
Pleasantville	0	0	0
Chappaqua	1	1	1
Mount Kisco	0	1	2
Bedford Hills	0	0	0
Katonah	1	1	1
Goldens Bridge	0	0	0
Purdy's	0	0	0
Croton Falls	0	0	0
<b>TOTAL</b>	<b>19</b>	<b>29</b>	<b>33</b>

**Number of Motor Scooters Observed**

<b>Hudson Line Station</b>	<b>Dec. 2011</b>	<b>May, 2012</b>	<b>Aug., 2012</b>
Ludlow	0	0	0
Yonkers	0	0	0
Glenwood	0	0	0
Greystone	0	0	
Hastings-on-Hudson	0	0	0
Dobbs Ferry	0	0	0
Ardsley-on-Hudson	0	2	4
Irvington	0	1	1
Tarrytown	0	0	0
Philipse Manor	0	0	0
Scarborough	0	0	0
Ossining	0	1	2
Croton-Harmon	1	1	3
Cortlandt	0	1	0
Peekskill	0	1	0
<b>Total</b>	<b>1</b>	<b>7</b>	<b>10</b>

Appendix B – Bike and Motorized Scooter Trends at Metro-North Railroad Stations

Total Number of Bikes Observed					
MNR Line	July, 2011	Sept., 2011	Dec., 2011	May, 2012	Aug., 2012
Hudson	49	60	41	40	54
Harlem	131	156	151	162	164
New Haven	193	193	188	227	205
<b>TOTAL</b>	<b>373</b>	<b>409</b>	<b>380</b>	<b>429</b>	<b>423</b>



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	Dec., 2011	May, 2012	Aug., 2012
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