

# PORTLAND BICYCLE COUNT REPORT 2009

## Introduction

Each year since the early 1990s, the Portland Bureau of Transportation (PBOT) has counted bicycle trips at various locations throughout the city. For the most part these counts have been manual counts, with volunteer counters and city staff standing at street corners and on bridges during the two-hour rush (“peak period”) counting each bicyclist that passes. In addition to the overall number of trips, PBOT also records the gender of each bicyclist and whether that cyclist is wearing a helmet. Most counts are still conducted in this manner, though in the early 2000s PBOT added a number of 24-hour automated “hose” counts (pressure-sensitive pneumatic hoses) on some bridges and trails. These counts, while they do not record gender or helmet use, provide a more complete picture of the ebb and flow of bicycle traffic over 24-hour periods.

### **Summary of the 2009 Bicycle Count:**

- **For the first time since 1995, the number of bicycle trips counted decreased in Portland.**
- **Bicycle traffic on Portland’s four bicycle-friendly bridges (Broadway, Steel, Burnside and Hawthorne bridges) and at 101 non-bridge locations showed a one-year decrease of 6 percent and 5 percent respectively. The total number of bicycle trips in Portland (combined bridge and non-bridge) decreased 5 percent compared with 2008.**
- **Although the number of bike trips on the four bridges were down, so was the number of trips made by drivers and transit riders. Because of this overall trend, bicyclists still represented approximately 13 percent of all vehicles crossing those bridges – the same percentage as in 2008.**
- **Bicycles represent 21 percent of all vehicles on the Hawthorne Bridge, up one percentage point from 2008. Bicycles represented 12 percent, 18 percent and 5 percent of all vehicles on the Broadway, Steel and Burnside bridges, respectively, compared to 14 percent, 15 percent and 5 percent in 2008.**
- **Adjusted for the 2009 decrease, the overall trend in bicycle traffic is up, increasing 180 percent since the 2000/2001 counts.**
- **Helmet use decreased from 80 percent of all bicyclists in 2008 to 77 percent in 2009. Helmet use in 2009 continues to be more prevalent among female riders (82 percent) than male riders (74 percent).**
- **Female riders represented 31 percent of bicyclists citywide, a one percentage point decrease from 2008.**

Prior to 2008 the majority of counts were concentrated in close-in neighborhoods and the Central City. In 2008, an emphasis was placed on increasing the total number of counts citywide, with a particular focus on locations in Southwest and East Portland east of I-205. This year, PBOT expanded its counts from the 121 sites counted in 2008 to 139 locations in 2009. PBOT compiled data from 134 of these locations based on manual two-hour peak period counts. These two-hour peak period counts are multiplied by five to provide an estimate of total daily bicycle traffic at each counted location<sup>1</sup>.

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<sup>1</sup> This is a standard traffic engineering rule of thumb. Its accuracy is borne out by our 24-hour automated counts.

Annual bicycle counts constitute one of the City's three principal means of assessing progress in its efforts to make the bicycle an integral part of daily life in Portland.<sup>2</sup> This report identifies the key findings from the latest round of bicycle counts conducted between June 23 and October 30, 2009.<sup>3</sup> The report also provides graphical representation of the data and includes a staff analysis.

The most significant finding of the 2009 count is that there has been a decrease in the numbers of trips compared to the previous year for the first time since 1995. Other indicators trended negatively, as well, including the percent of cyclists who are female and helmet usage.

Of 105 locations that were counted in both 2008 and 2009 (including the four bicycle-friendly Willamette River Bridges and trails) 68 locations showed a decrease compared to 2008 while 37 locations showed an increase. Overall, bicycle use declined approximately five percent compared to 2008. Helmet use showed a decrease of approximately three percent compared to 2008, though overall helmet use remains relatively high at 77 percent. The ratio of male to female cyclists increased slightly from 2.125:1 in 2008 to 2.25:1 in 2009. Citywide, 69 percent of cyclists counted in 2009 were male, compared to 68 percent in 2008.

All the data discussed in this portion of the report is displayed graphically in the appendix.

### **Bicycle-Friendly Willamette River Bridge Counts**

An important gauge for measuring bicycle use in Portland is the number of bicycle trips across the four bicycle-friendly bridges over the Willamette River (Hawthorne, Burnside, Steel, and Broadway bridges). The number of bicyclists crossing these four bridges has grown rapidly in recent years. However, in 2009 bicycle trips across these bridges decreased six percent, representing the first drop in ridership since 1995. In 2009 Portlanders took an average of nearly 15,750 daily trips across the Willamette River to travel between Portland's east and west sides (compared to approximately 16,700 in 2008).

Bicycle trips make up a significant proportion of all vehicular trips across the Willamette River. In 2009, despite the one-year drop in ridership, bicycle trips accounted for 13 percent of the combined 117,609 daily bicycle and auto trips on the four bicycle-friendly bridges, which was essentially the same as in 2008<sup>4</sup>. The proportion held constant because, as with bicycle trips, auto trips across the bridges dropped in 2009<sup>5</sup>. For contrast, in 2000 bicycles represented only five percent of all vehicles on these bridges. The proportion of bikes in relation to cars has nearly tripled since 2000.

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<sup>2</sup> The other two means include data from the US Department of Commerce (either the annual American Community Survey or the decennial US Census), and the annual resident survey conducted by the City Auditor's Office.

<sup>3</sup> Difficulties associated with procuring, installing, and calibrating new pneumatic hoses forced PBOT to extend the count period for hose count locations to October 30, 2009.

<sup>4</sup> Bicycle traffic represented 13.4% of vehicles on the four bridges in 2009 and 12.9% in 2008. Rounding brings both values to 13%.

<sup>5</sup> Annual automobile counts are not typically conducted on the four bridges. However, in 2009 PBOT did conduct counts on the four bicycle-friendly bridges. Those counts showed an overall ten percent decrease from 2005, when the last counts were taken on all but the Steel Bridge. For more detail, see the appropriate chart in the Appendix.

## Non-Bridge Counts

A decrease in bicycle traffic on the bridges is consistent with similar declines in citywide ridership. Comparisons at 101 non-bridge locations citywide show a five percent decrease in bicycle use compared to the previous year. Compared to 2000/2001, ridership citywide has increased 190 percent, based on a comparison at 30 non-bridge locations.

### 2009 Non-Bridge Bicycle Counts Compared with Prior Years

#### Citywide Manual Counts

Since 2000 or 2001, every district in the City has seen consistent and significant growth in bicycle use. The largest gains have been made in Southeast Portland, which saw a 243 percent increase at seven locations. The next highest percentages of growth since 2000/2001 were in the Central City and in North

DISTRICT/ LOCATION	% CHANGE SINCE 2000/01	BASED ON # LOCATIONS	% CHANGE SINCE 2008	BASED ON # LOCATIONS
<b>Citywide Total</b>	<b>190%</b>	30	<b>-4.6%</b>	101
<b>Central City</b> (west side)	212%	6	1.5%	8
<b>North</b>	183%	4	-8%	12
<b>Northeast</b>	138%	5	-7%	14
<b>Southeast</b>	243%	7	-2%	21
<b>East</b>	na	na	3.5%	16
<b>Northwest</b>	81%	4	-8.5%	9
<b>Southwest</b>	161%	4	-11.5%	21

Portland, which experienced 212 and 183 percent increases respectively. Comparing 2009 count data from 101 non-bridge locations to 2008 counts, however, reveals a break in the long-term trend of across-the-board growth.

In 2009, the only districts that experienced growth in ridership were the Central City (1.5 percent) and East Portland (3.5 percent). All other districts showed declines in ridership of two to 11.5 percent, with the largest drops in Southwest Portland (11.5 percent, excluding the Central City) and Northwest Portland (8.5 percent).

### Percentage of Bicyclists Identified as Female

DISTRICT/ LOCATION	% 2008	% 2009	CHANGE IN % POINTS
<b>Citywide Total</b>	32.0%	31.0%	-1.0
<b>Central City</b> (west side)	28.5%	31.3%	2.8
<b>North</b>	35.4%	32.9%	-2.5
<b>Northeast</b>	35.1%	35.7%	0.6
<b>Southeast</b>	32.1%	32.8%	0.7
<b>East</b>	18.7%	18.6%	-0.1
<b>Northwest</b>	29.6%	27.7%	-1.1
<b>Southwest</b> (excluding Central City)	28.1%	25.8%	-2.3

#### Gender Split

Because cities with high bicycle mode shares typically achieve a balance between male and female ridership, gender parity is often considered an important indicator of success in creating safe, comfortable and attractive conditions for bicycling. Women represented 31 percent of all bicyclists counted during Portland's summer 2009 counts. This gender split represents a slight decline in the proportion of female bicyclists compared to 2008, when women accounted for 32 percent of all bicyclists counted.

Depending on the area of the City, the proportion of women riders fluctuated between 19 percent (East Portland) and 36 percent (Inner NE) of all bicyclists. The highest proportion of female bicyclists was in Inner Northeast Portland, where they represented 36 percent of all bicyclists counted, and the lowest was in East Portland, where

they represented 19 percent of riders. The Central City saw the largest one-year increase in the percentage of female riders, where their numbers grew three percentage points from last year. Areas of Portland experiencing the largest decreases in percentage of female riders were North Portland and Southwest Portland (excluding the Central City), where women as a percentage of all bicyclists declined 2.5 and 2.8 percentage points respectively.

## Helmet Use

Helmet use in Portland has been trending steadily upward since the early 1990s. In 1992 only 44 percent of Portland cyclists used a helmet. In 2009 approximately 77 percent did. The year of highest helmet use was 2008, during which approximately 80 percent of Portlanders wore a helmet while riding a bicycle.

Helmet use is highest in Southwest Portland, where approximately 88 percent of riders wear helmets. It is lowest in East Portland where only 60 percent of riders were observed wearing them. Only in Northeast and Southwest Portland did helmet use grow, by approximately one percentage point.

2009 Compared with 2008: Helmet Use

DISTRICT/ LOCATION	% 2008	% 2009	CHANGE IN % POINTS
Citywide Total	80%	77%	-3%
Central City (west side)	83%	81.5%	-1.5%
North	84.5%	82%	-2.5%
Northeast	77%	78%	1%
Southeast	77%	73%	-4%
East	63%	60%	-3%
Northwest	78.5%	76%	-2.5%
Southwest (excluding Central City)	87%	88%	1%

As has been the case in every year since 1992, women wear helmets at a higher rate than do men. In 2009 approximately 82 percent of female riders wore helmets while 74 percent of men wore them. In both cases, this represents a decrease of four percent and three percent respectively from 2008.

## Analysis

Because the city's bicycle count data is a well-recognized and widely discussed index of Portland's bicycle use it seems reasonable to provide some analysis as to the factors that may have contributed to the first decline in citywide ridership since 1995. There seem to be three principal factors at play. First is the economy in recession, and the resulting high unemployment. Second is that the high bicycle use in 2008, though following a trend of several years, may have been higher than normal in response to that years' spike in gasoline prices. A third factor may be that most of the pool of Portlanders willing to ride on standard bicycle lanes is already riding and that there are few additional gains to be made. Each of these will be further explored, below.

The Recession. 2009 is a recessionary year with high unemployment. Under such conditions all travel behavior is depressed, which is seen as a decrease in the number of trips taken using transit, automobiles and bicycles. Portland does not annually monitor automobile volumes at the same locations. However, we do have data from 26 locations where automobiles were counted in 2009 that were also counted in 2008, 2007 or 2006. These 26 locations show an overall seven percent decrease in automobile traffic in 2009 compared to previous years. Only seven locations show an increase in traffic while 19 showed decreases ranging from one percent to 41 percent,

with 17 percent being the average decline in traffic volume at those locations showing decreases. Most traffic models predict slight annual increases in automobile volumes over time.

In addition to this city count data, the Oregon Department of Transportation monitors travel behavior on Oregon highways. This data is analyzed by transportation researchers at Portland State University's Center for Transportation Studies. A comparison of data from I-5 northbound and southbound for the same months (March through October) in 2008 and 2009 shows a drop in automobile volumes of five percent for northbound travel on I-5 and eight percent for southbound travel. This data was collected between the Oregon state line and Wilsonville.

Similarly, Tri-Met reports an overall decrease in transit ridership between 2008 and 2009. It is likely that, as

with bicycle riderhip, some of that decrease is a response to lower gasoline prices in 2009 as well as due to decreased economic activity due to the recession.

Automobile Counts 2009 Compared to 2006-2008					
Location	Year				% change
	2006	2007	2008	2009	
SE Barbara Welch S of 144th		646		1,355	110%
SE Barbara Welch E of 152nd		545		813	49%
SE Barbard Welch E of 152nd	622			813	31%
N Overlook N of Colonial	293			362	24%
SW Bancroft W of Condor	475			582	23%
Hawthorne Bridge Ramp E of Jefferson/Naito		4,865		5,934	22%
SW Condor Av E of Condor Ln	1,630			1,881	15%
SW 6th Dr N of Bancroft			3,192	3,165	-1%
SW Spring Garden W of 17th		7,944		7,814	-2%
NW Glisan E of 23rd	4,849			4,716	-3%
SE Madison E of Grand		10,369		9,955	-4%
SE Belmont E of 42nd		9,276		8,839	-5%
NW Naito N of Everett		8,155		7,694	-6%
N San Rafael E of 119th	2,200			2,054	-7%
SE Tacoma W of 6th		29,341		26,999	-8%
SW View Point Ter N of Bancroft		513		462	-10%
NE 37th N of Simpson			958	857	-11%
Hawthorne Bridge E of SE Hawthorne Bridge		23,575		20,195	-14%
N Woolsey N of Kilpatrick		1,973		1,529	-23%
SW Hamilton W of Hamilton Ter	862			653	-24%
N Woolsey S of Winchell		2,425		1,769	-27%
N Russett W of Hurst		940		676	-28%
N Winchell E of Wayland		711		477	-33%
SE 41st S of Harold		2,407		1,501	-38%
NE 13th N of Faloma		1,396		853	-39%
NE 13th N of Meadow		1,383		815	-41%
<b>Overall Change</b>					<b>-7%</b>

Changes in Automotive Use on I 5: 2009 compared to 2008						
	I 5 Northbound			I 5 Southbound		
	2008	2009	Percent Change	2008	2009	Percent Change
Total Volume over all Count Stations	583,397,146	556,422,297	5%	480,622,553	442,801,940	8%
Average Daily Volume	123,288	117,587	5%	136,231	125,511	8%

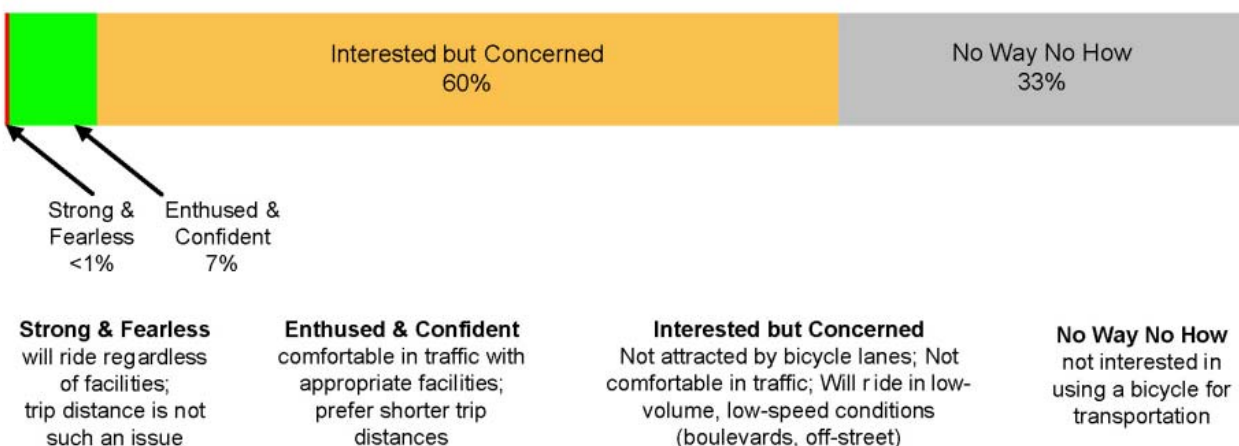
Higher Gas Prices in 2008. Though annual bicycle ridership began climbing exponentially in 2005, the almost 30 percent growth between 2007 and 2008 may have been aided by the nationwide spike in gasoline prices during summer 2008. With gas prices approaching four dollars per gallon then, both bicycle and transit ridership showed

dramatic increases over 2007. With the return to lower gas prices, it is reasonable to expect that some who rode in 2008 may have returned to driving.

Transit Boardings 2008 and 2009			
Ridership	Summer 2008	Summer 2009	% change
Average Weekday	330,500	308,200	-7%
Weekday Peak (AM and PM)	105,100	92,800	-12%

The “Interested but Concerned”. The majority of Portland’s bikeway network in 2009 consisted of bicycle lanes on busy streets (accounting for 62 percent of Portland’s 281 developed bikeway miles). The Bureau of Transportation recognizes that only a relatively small percentage of Portlanders – perhaps ranging from ten to 15 percent – will be attracted to riding in such facilities. The majority of people, referred to as the “interested but concerned,” will not use a bicycle for regular transportation until safer and more comfortable conditions are created for bicycle transportation. These groups are captured in the City’s analysis of the “Four Types of Transportation Cyclists,” which is represented graphically in the following chart.

## Four Types of Transportation Cyclists in Portland By Proportion of Population

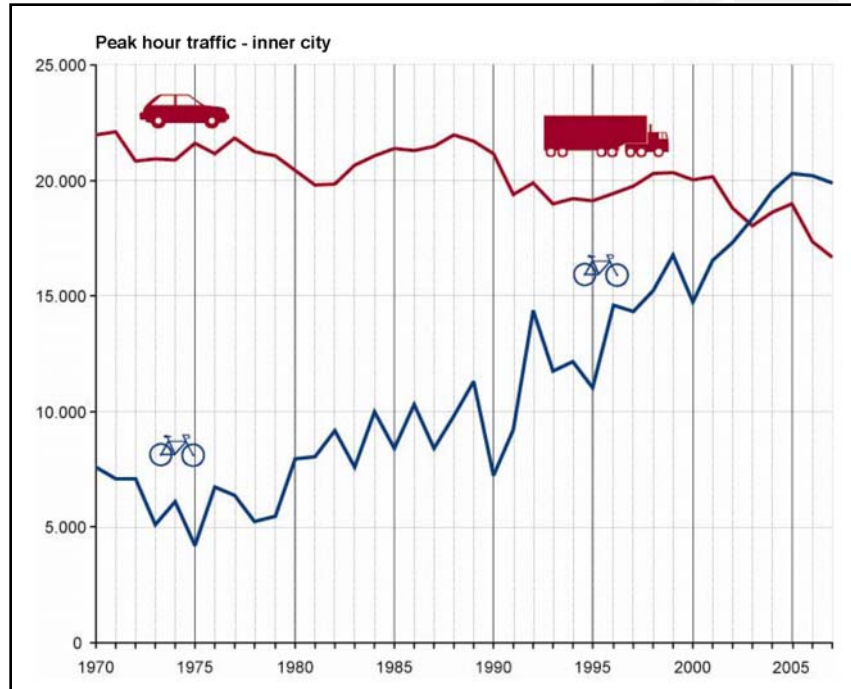


While Portland has seen rapid growth in bicycle ridership in the past decade, without the development of world-class bicycle facilities this growth will logically end at some point. It is possible that in addition to the economy and lower gasoline prices, another factor contributing to this year’s decrease in ridership is that the pool of people willing to use a bicycle for transportation is almost exhausted given the appeal of the city’s current bicycle transportation infrastructure.

### Conclusion

There seem understandable and reasonable explanations to describe this first decline in bicycle ridership since 1995. However, it is important to note two points. First is that the overall trend of bicycle use has risen first

steadily and then dramatically over the past decade. Second is that a one-year count does not a trend make. To demonstrate this second point it is useful to look at a graph of bicycle counts over time in a city whose bicycle ridership Portland hopes to emulate. As the adjacent graph demonstrates Copenhagen, Denmark experienced many annual up and down spikes in both its long-term steady increase in bicycle use and steady decline in automotive use. What the graph reveals is that the overall trend is revealed only over time.



Copenhagen Traffic Counts (source: presentation by Andreas Rohl, Copenhagen Bicycle Coordinator).

## APPENDIX: GRAPHS AND CHARTS

### Graphs

Average Daily Bicycle Traffic 4 Willamette River Bridges  
Combined Bicycle Traffic Over Four Main Portland Bicycle Bridges Juxtaposed  
with Bikeway Miles  
Combined 2008 Bicycle Traffic Over Four Main Portland Bicycle Bridges  
Juxtaposed with Crash Rate  
Bicycle Traffic at City Count Locations (Bridge and Non-Bridge Traffic)  
Change in Bicycle Traffic (Bridge, Non-Bridge, and Combined Locations 2009)  
Daily Bicycle Counts by Section of City  
    SE Portland  
    North Portland  
    East Portland  
    NE Portland  
    West Portland (Central City)  
    Southwest Portland (not including Central City)  
    Northwest Portland (not including Central City)  
City of Portland Bicycle Counts by Year by Gender  
City of Portland Bicycle Counts by Sector 2009 by Gender  
City of Portland Bicycle Counts by Year by Helmet Use  
City of Portland Bicycle Counts by Sector 2009 by Helmet Use

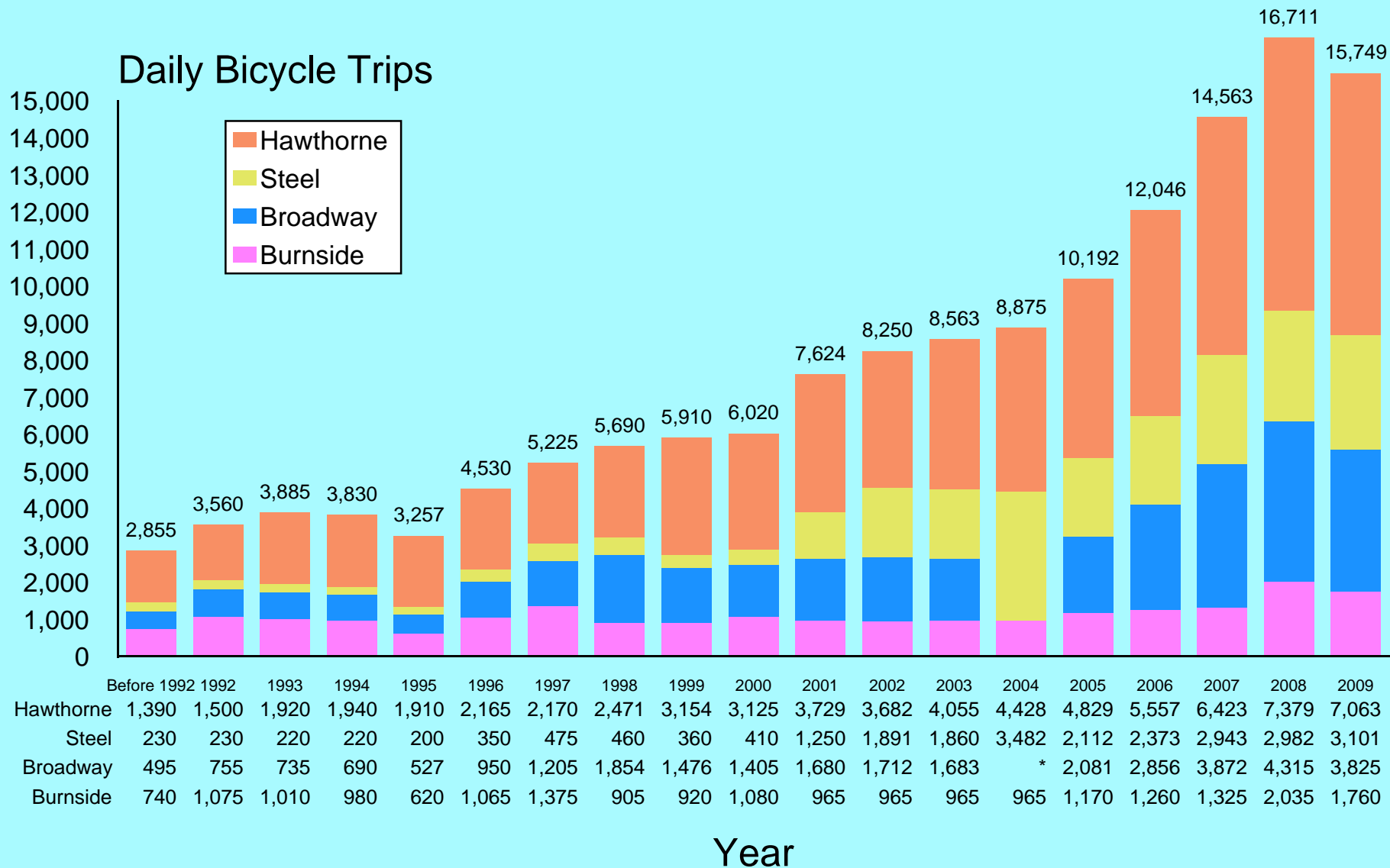
### Charts

City of Portland Bicycle Counts by Year (Gender and Helmet Use)  
    Citywide  
    North Portland  
    Northwest Portland  
    Southwest Portland  
    East Portland  
    Inner NE Portland  
    Inner SE Portland  
Bicycle and Auto Counts on the Four Main Bicycle-Friendly Downtown Bridges  
1991-2009



# Average Daily Bicycle Traffic

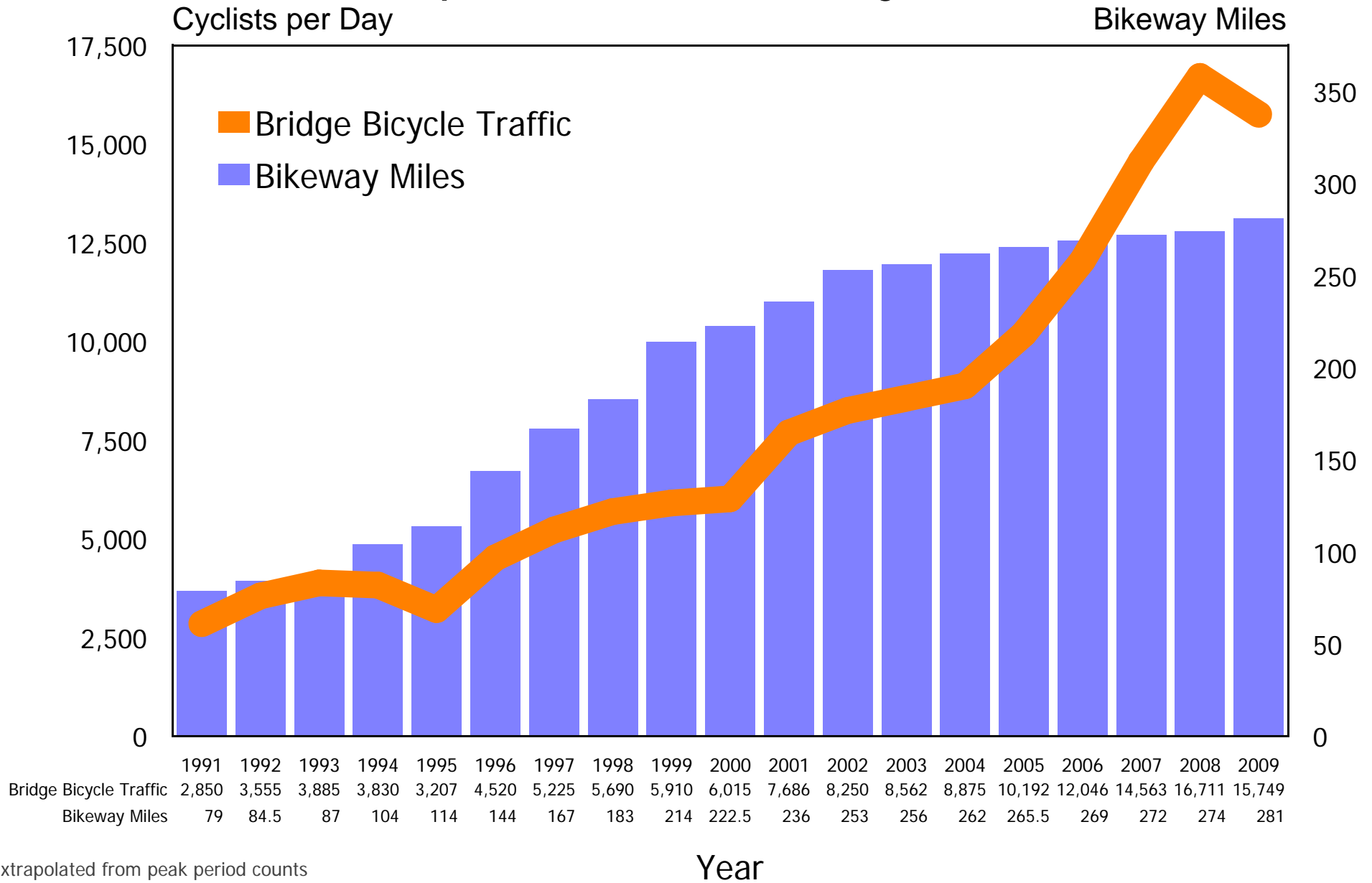
## 4 Main Willamette River Bicycle Bridges



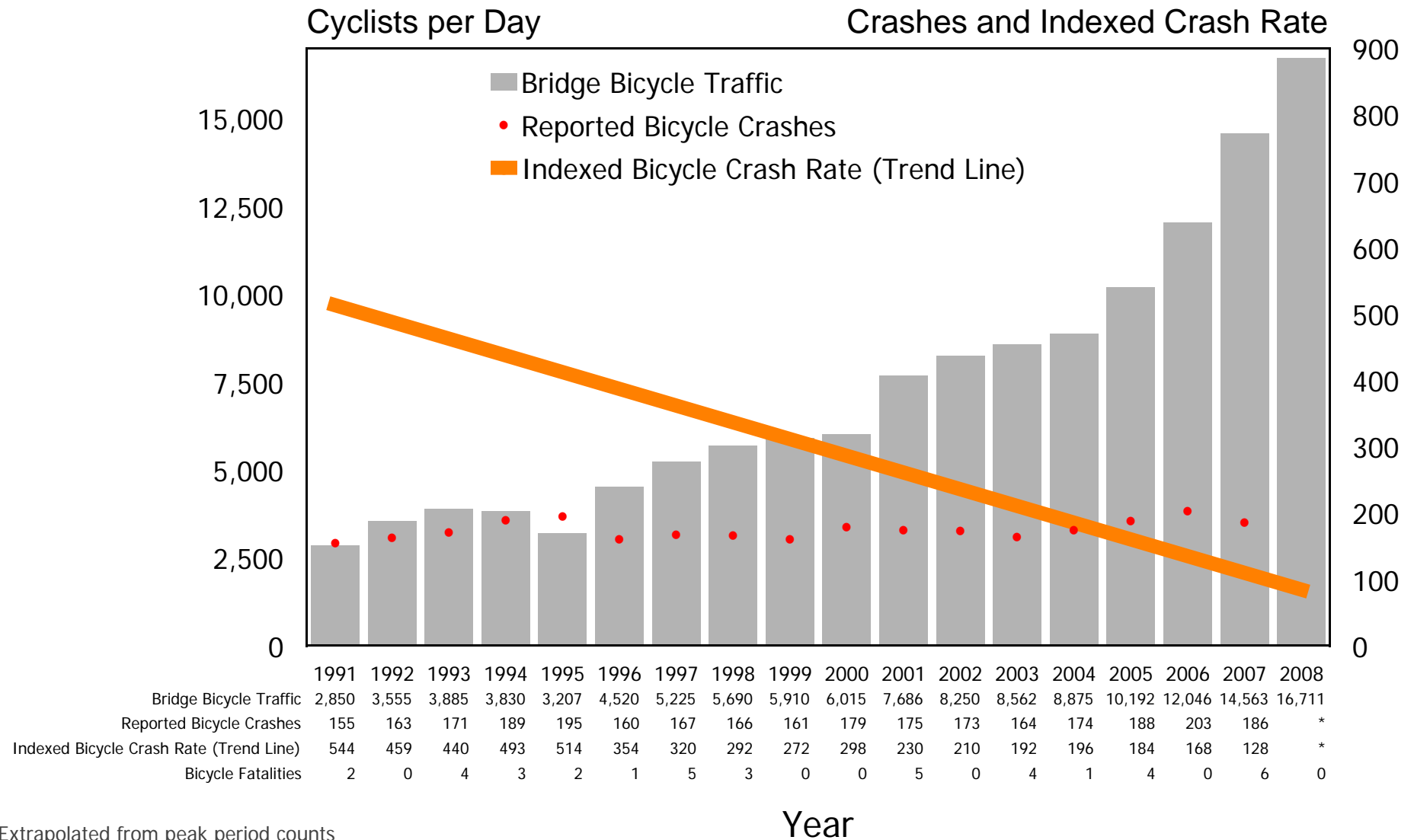
Based on either 24-hour hose counts or extrapolated from 4-6 pm counts

\* Broadway Bridge closed for construction during time of count.

# Bicycle Traffic across Four Main Portland Bicycle Bridges Juxtaposed with Bikeway Miles



# Combined Bicycle Traffic over Four Main Portland Bicycle Bridges Juxtaposed with Bicycle Crashes



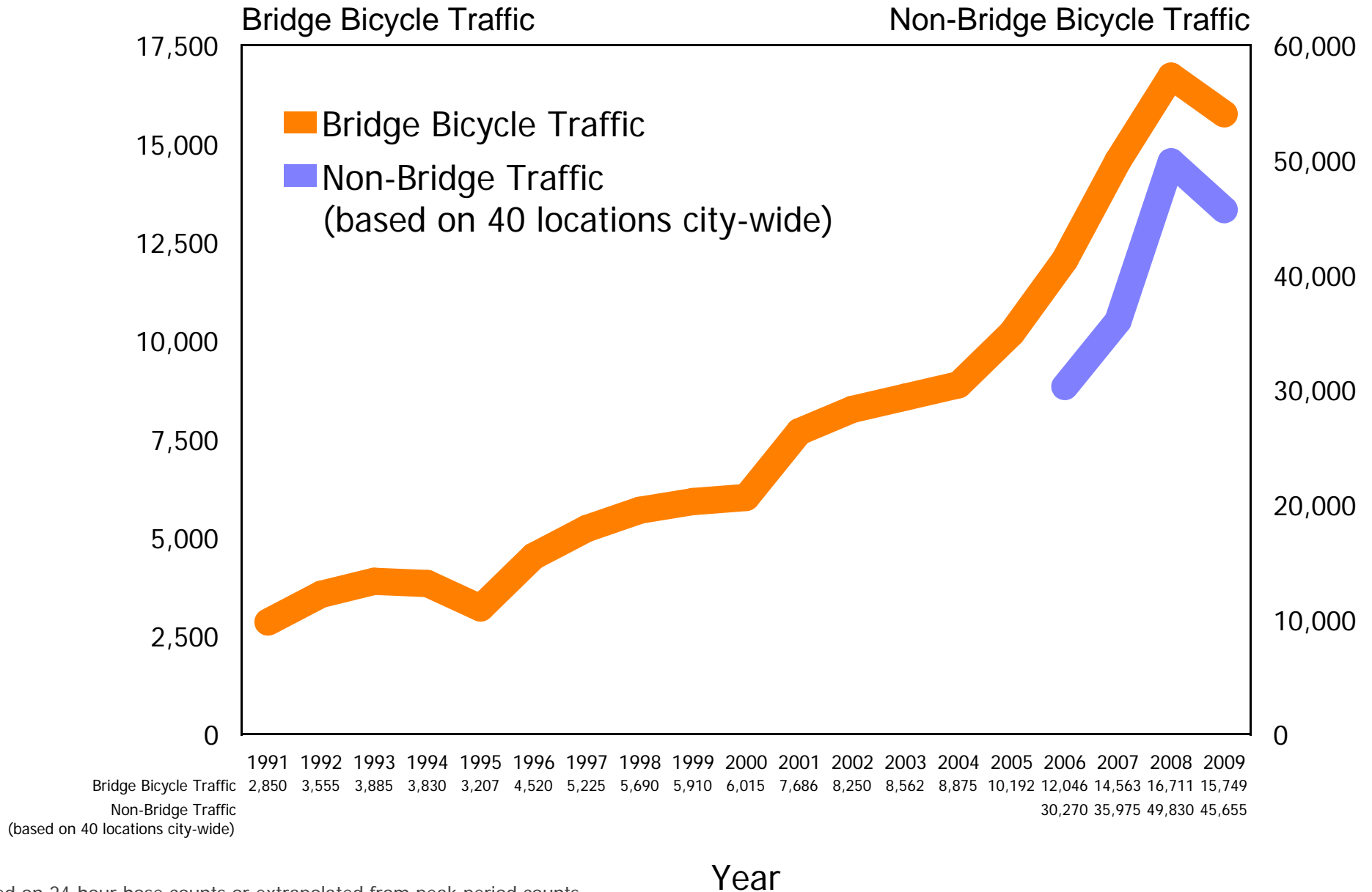
Extrapolated from peak period counts

"Crash Rate" represents an indexing of annual reported crashes to daily bicycle trips across the four main bicycle bridges.

\*2008 Reported Bicycle Crashes data not yet available

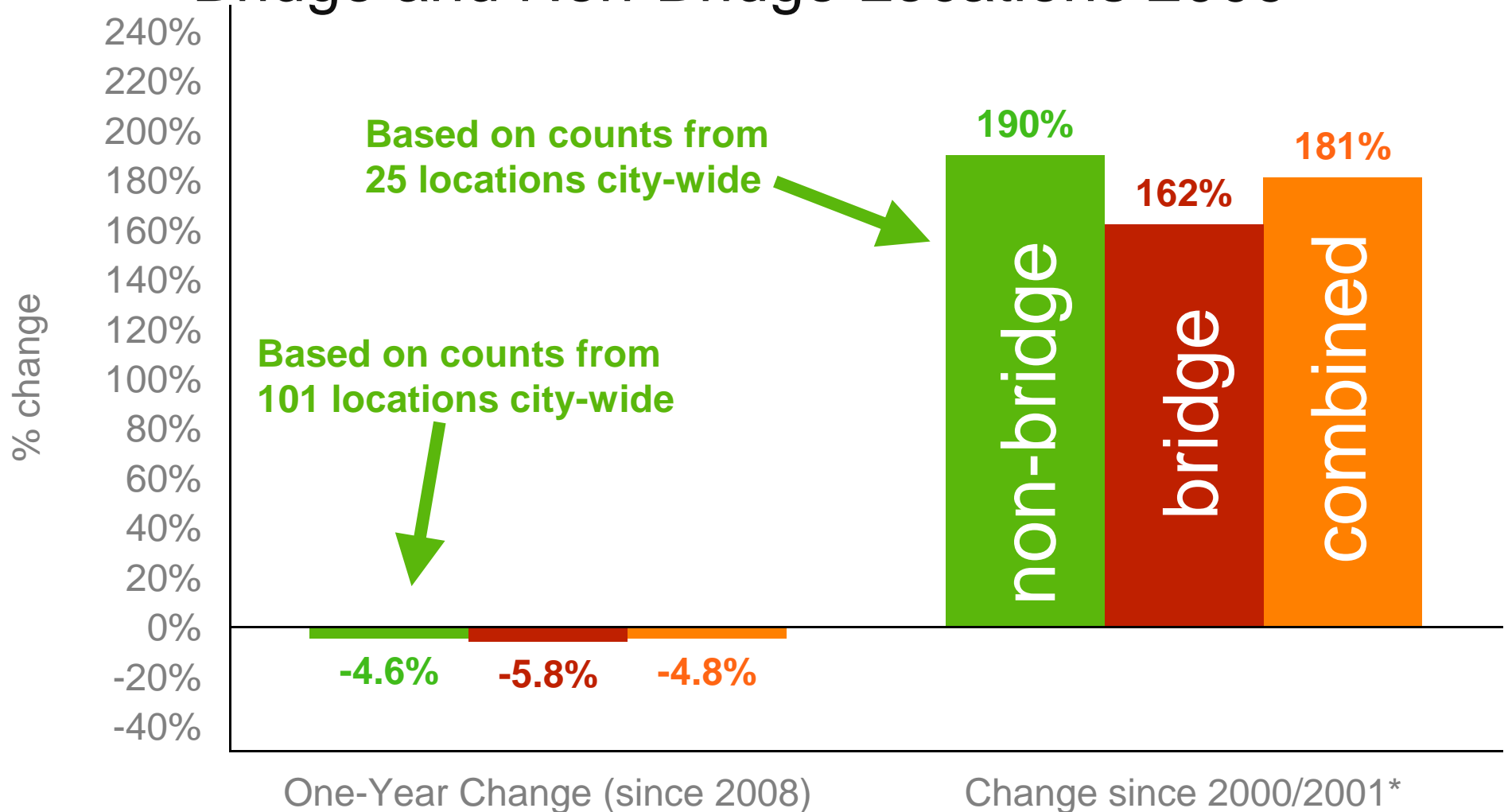
# Bicycle Traffic at City Count Locations

## Bridge and Non-Bridge Traffic



# Changes in Bicycle Traffic

## Bridge and Non-Bridge Locations 2009



Based on manual and automated bicycle counts

\*used the higher of data available 2000/2001

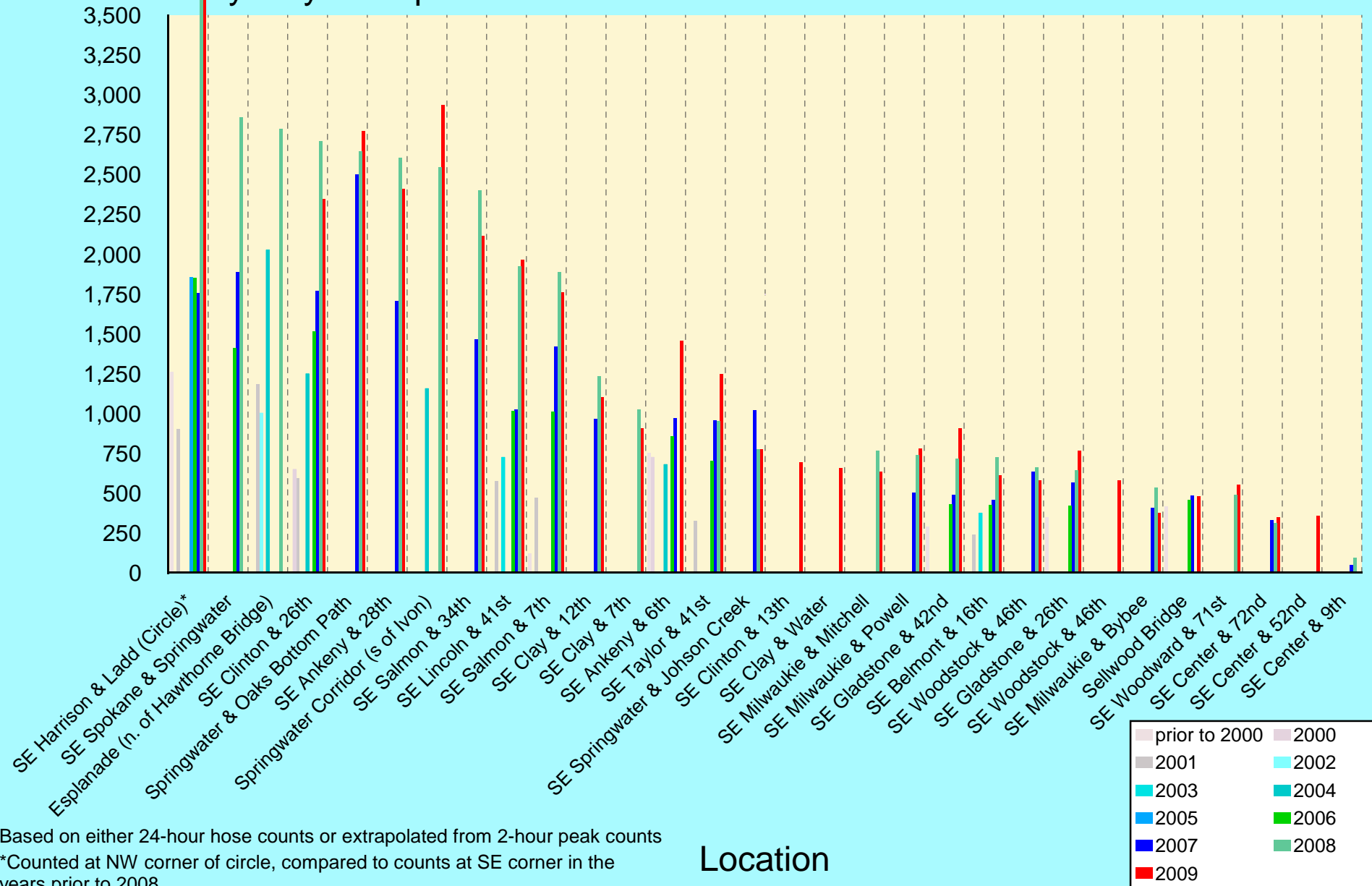
■ Non-Bridge Locations

■ Bridges (Hawthorne, Burnside, Steel & Broadway)

■ Combined Bridge & Non-Bridge

# Daily Bicycle Traffic Inner SE Portland 2009 Counts Compared to Previous Years

Daily Bicycle Trips

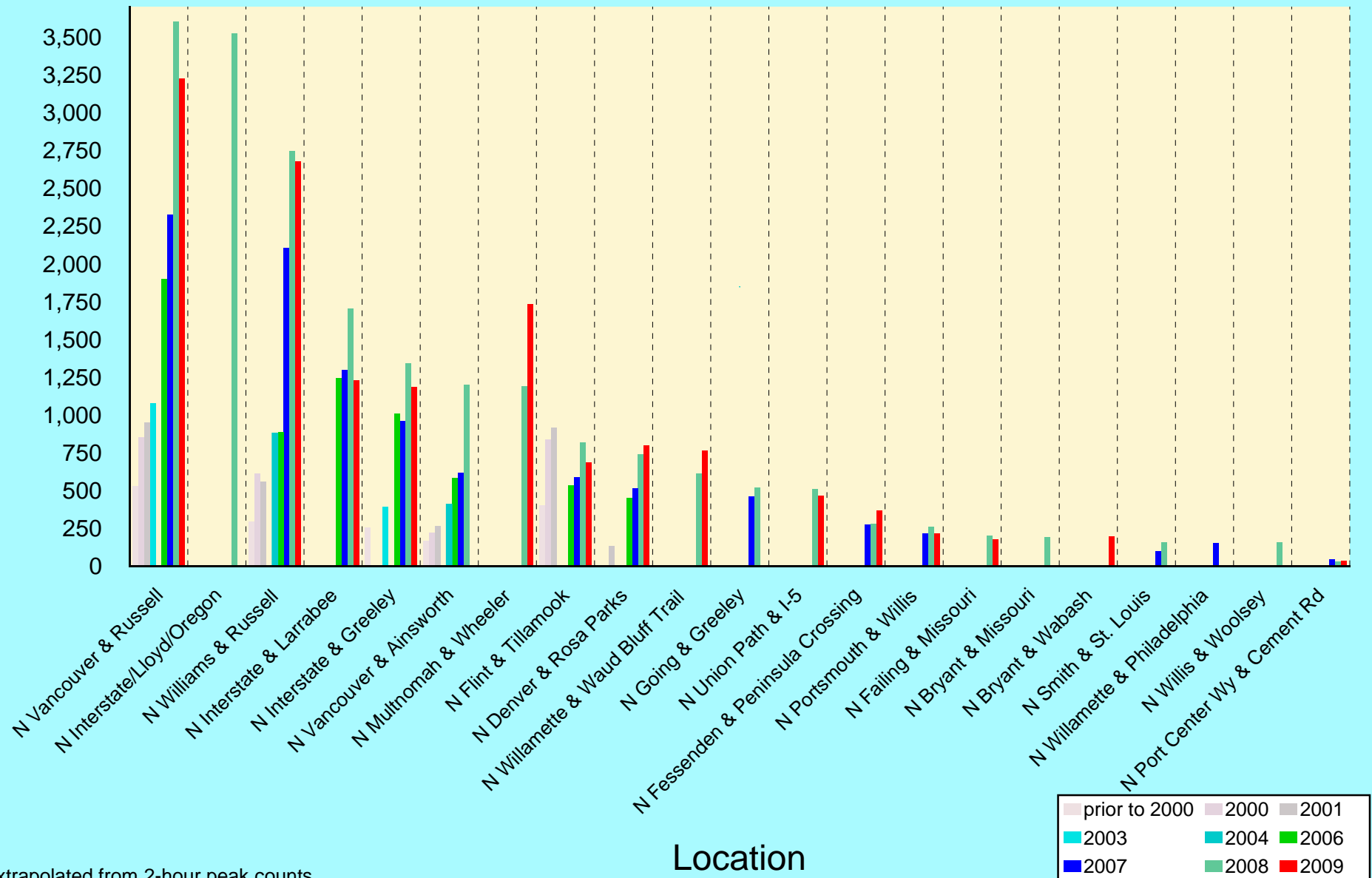


Based on either 24-hour hose counts or extrapolated from 2-hour peak counts  
 \*Counted at NW corner of circle, compared to counts at SE corner in the years prior to 2008.

Location

# Daily Bicycle Traffic: North Portland 2009 Counts Compared to Previous Years

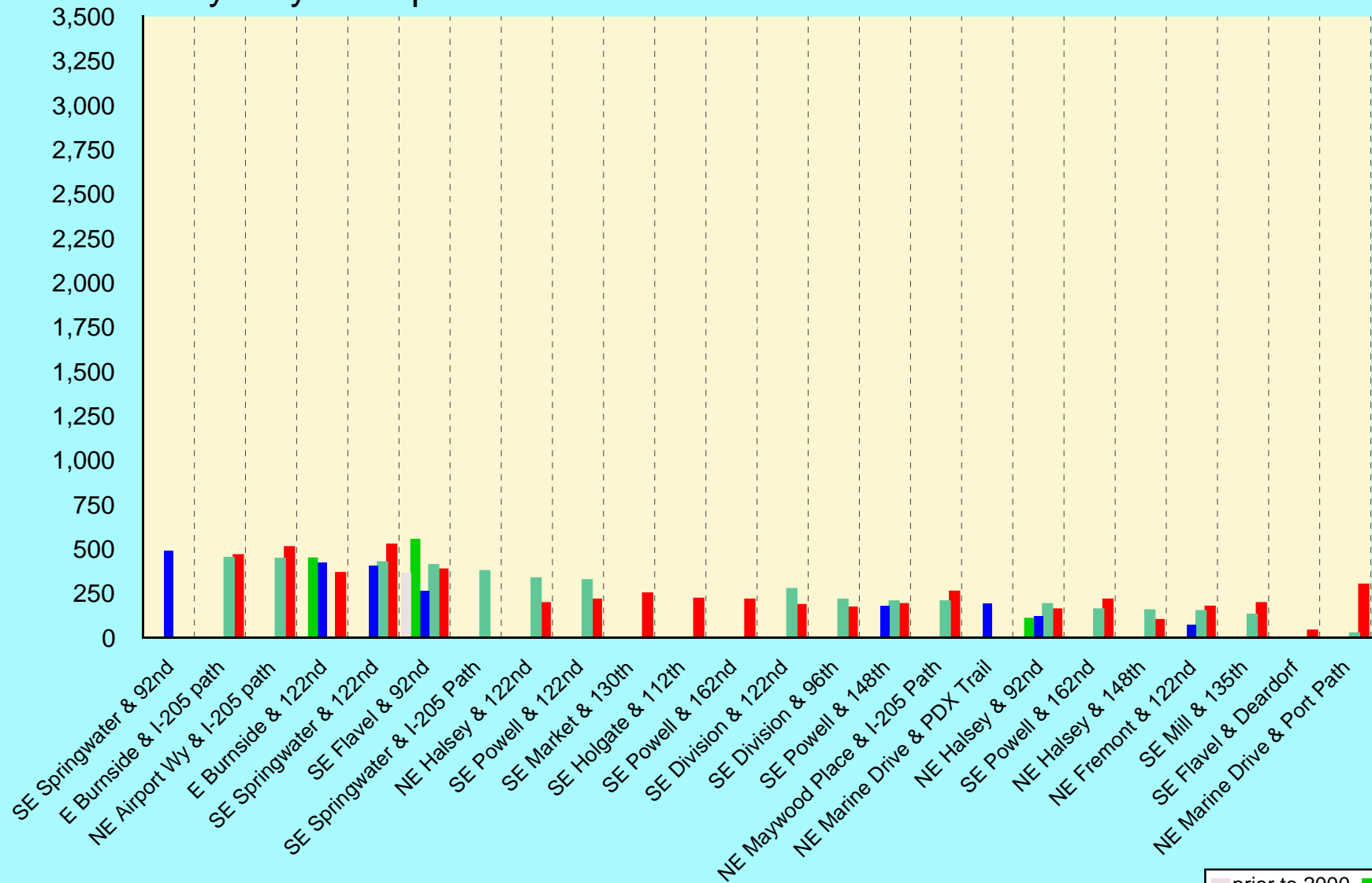
## Daily Bicycle Trips



Extrapolated from 2-hour peak counts

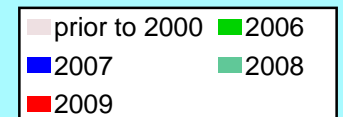
# Daily Bicycle Traffic East Portland 2009 Counts Compared to Previous Years

## Daily Bicycle Trips



Based on either 24-hour hose counts or extrapolated from 2-hour peak counts

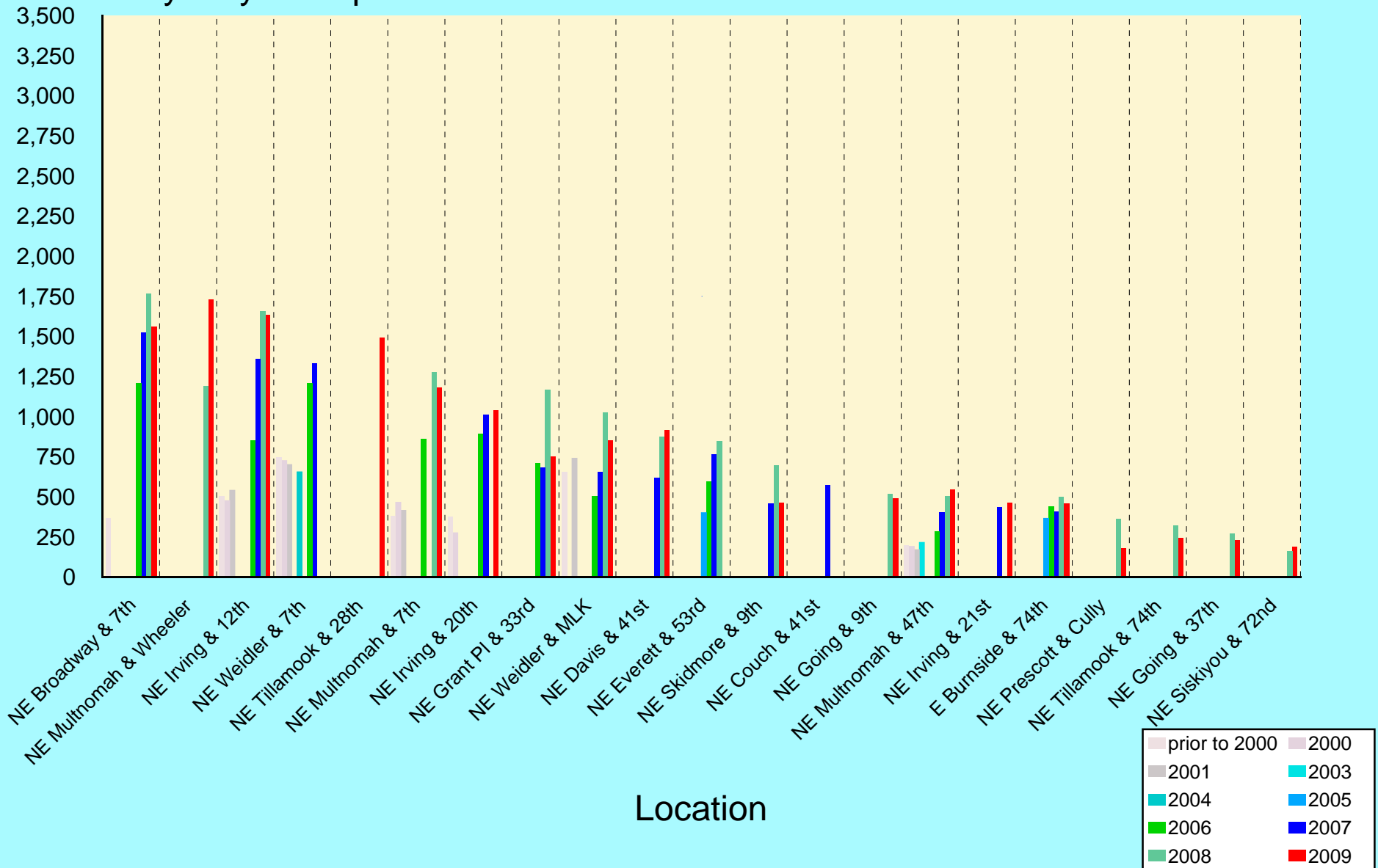
Location





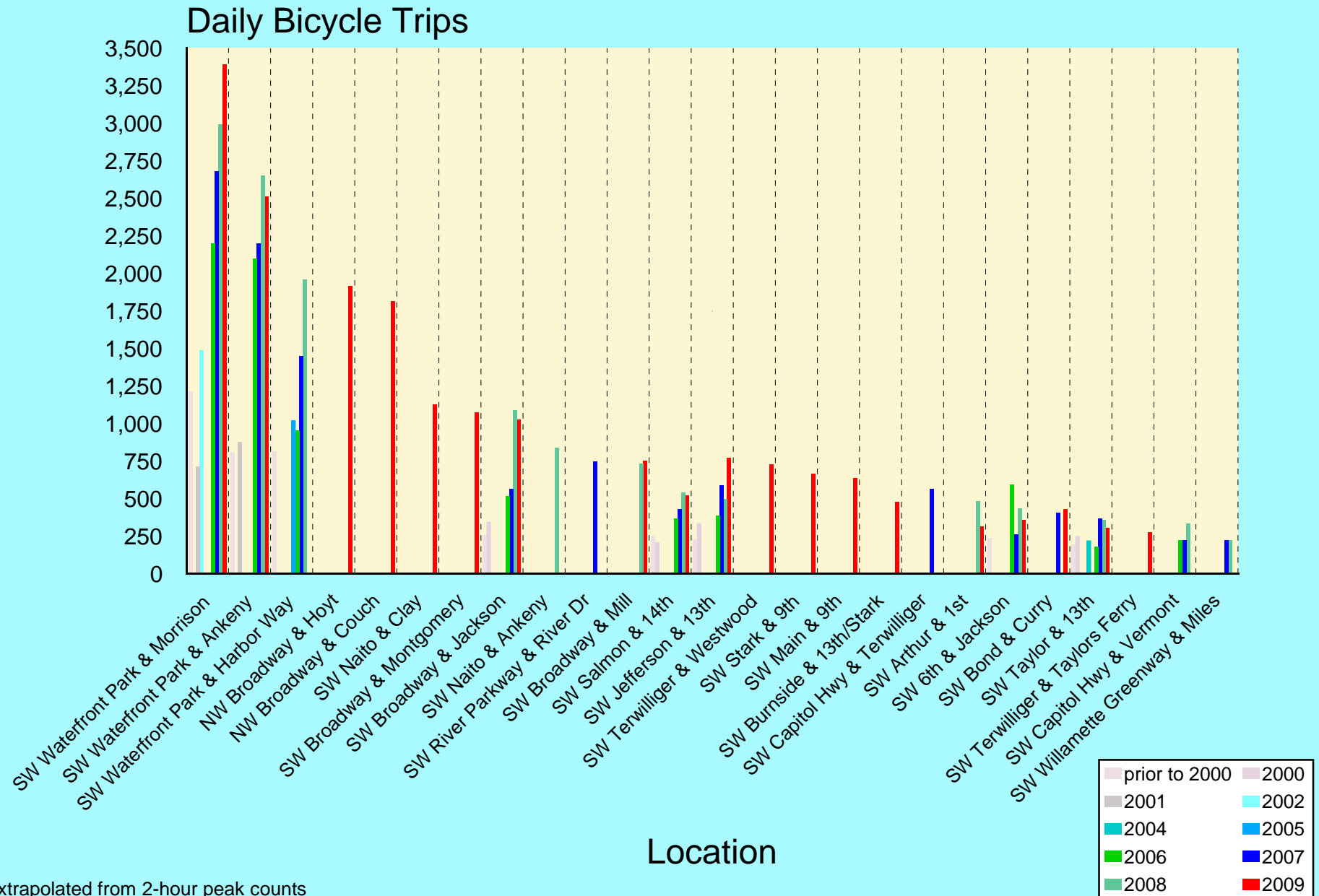
# Daily Bicycle Traffic: Inner NE Portland 2009 Counts Compared to Previous Years

## Daily Bicycle Trips

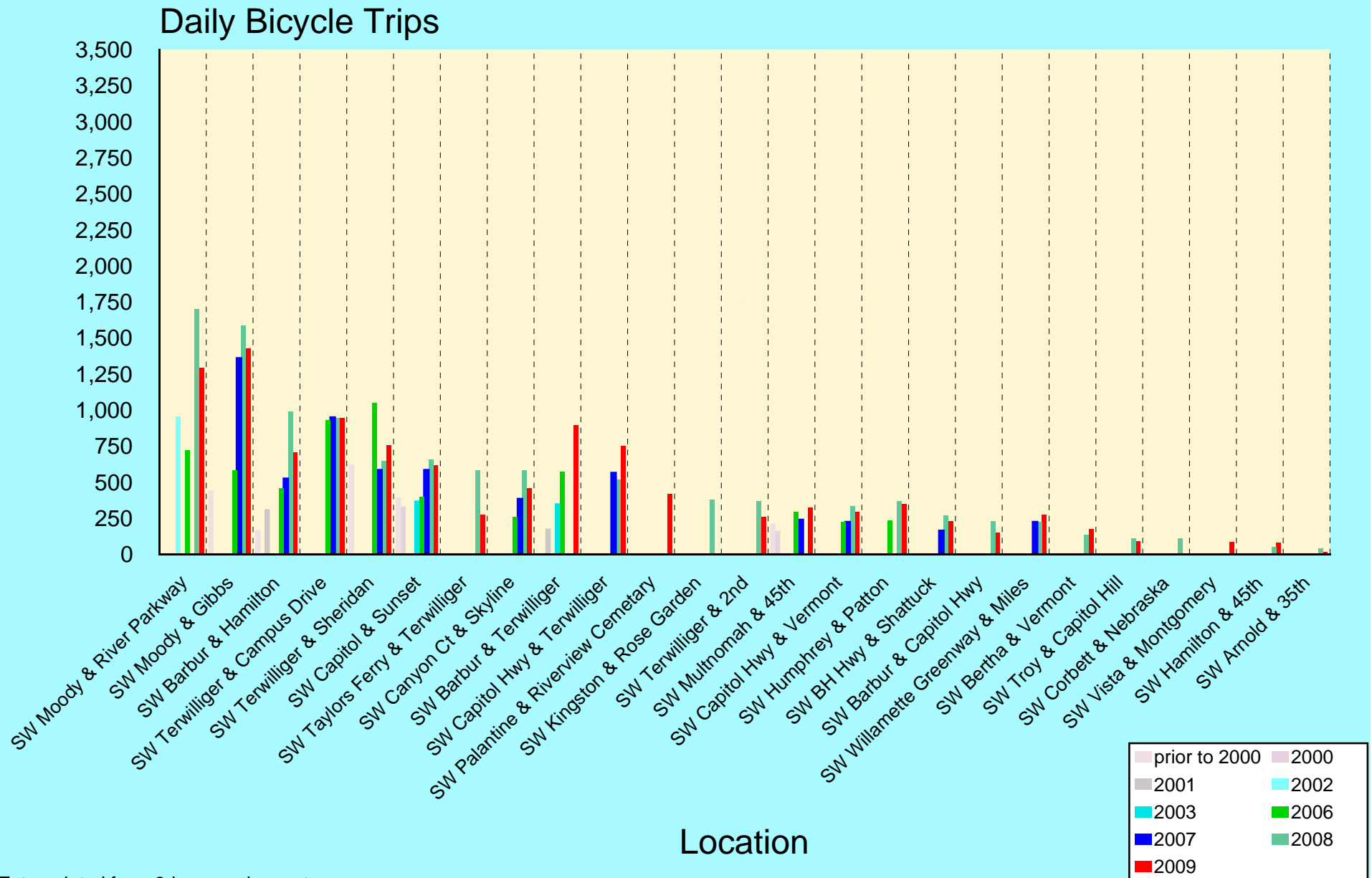


Extrapolated from 2-hour peak counts

# Daily Bicycle Traffic: West Portland (Central City) 2009 Counts Compared to Previous Years

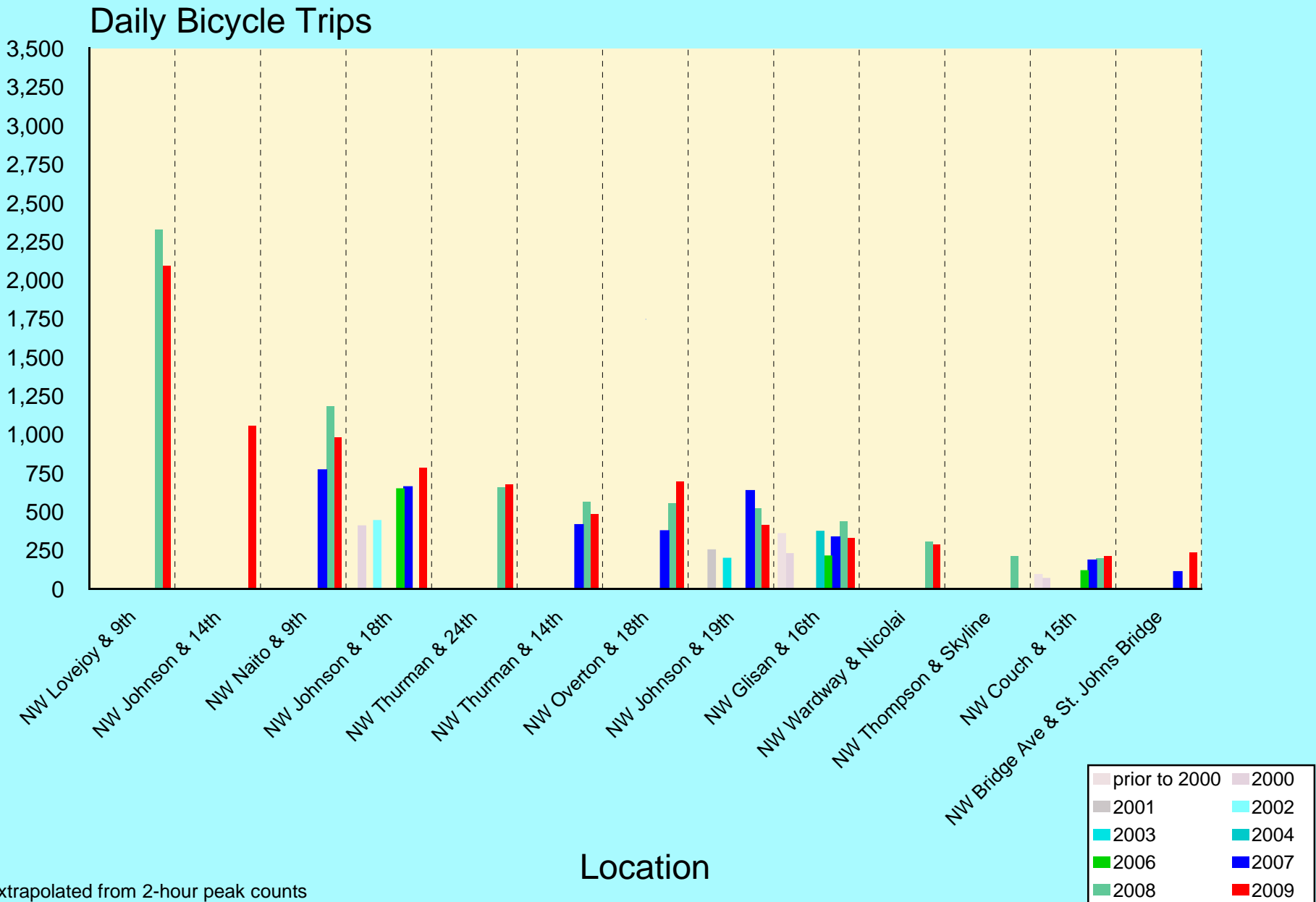


# Daily Bicycle Traffic: Southwest Portland (not incl. Central City) 2009 Counts Compared to Previous Years

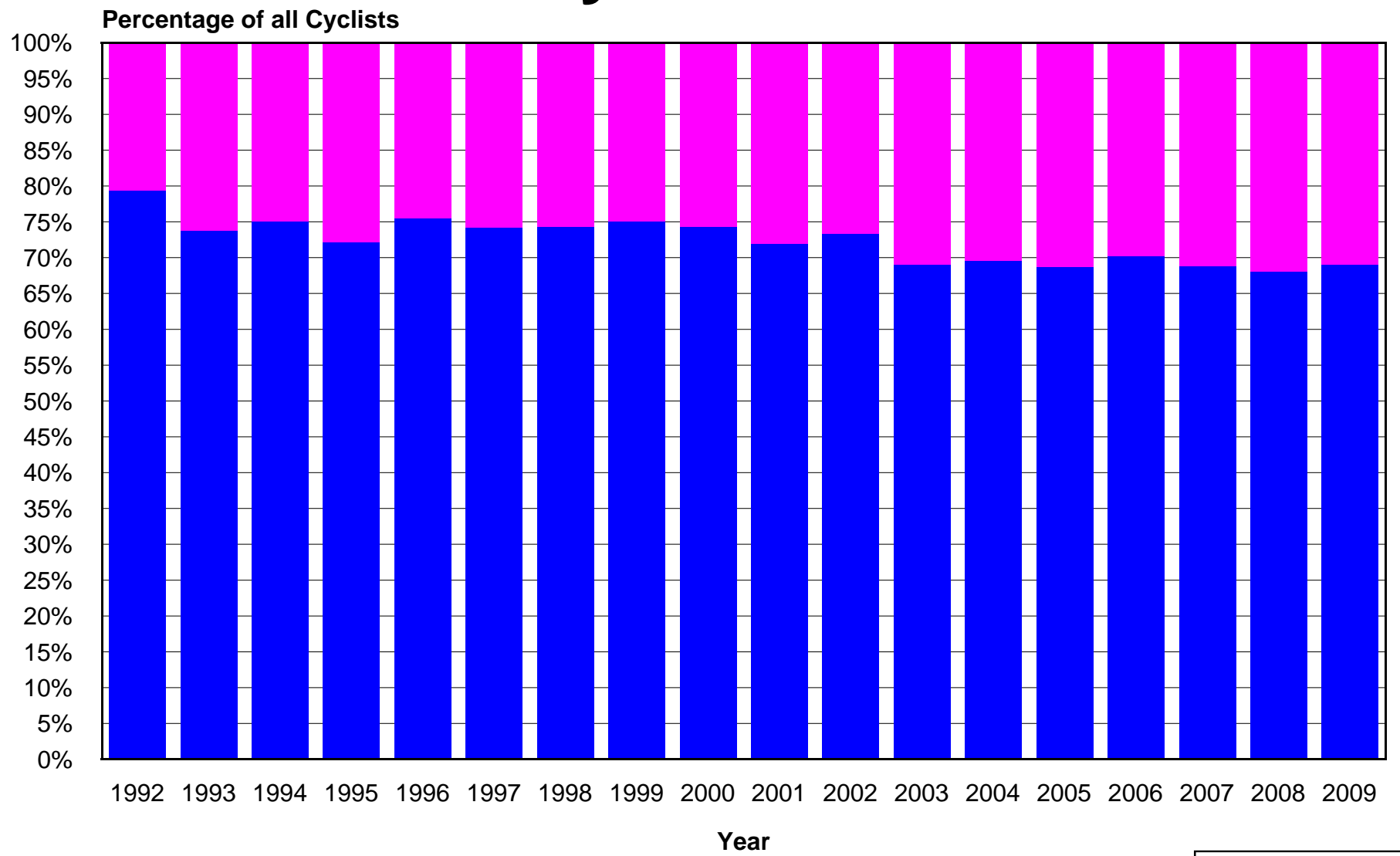


Extrapolated from 2-hour peak counts

# Daily Bicycle Traffic: Northwest Portland (not incl. Central City) 2009 Counts Compared to Previous Years



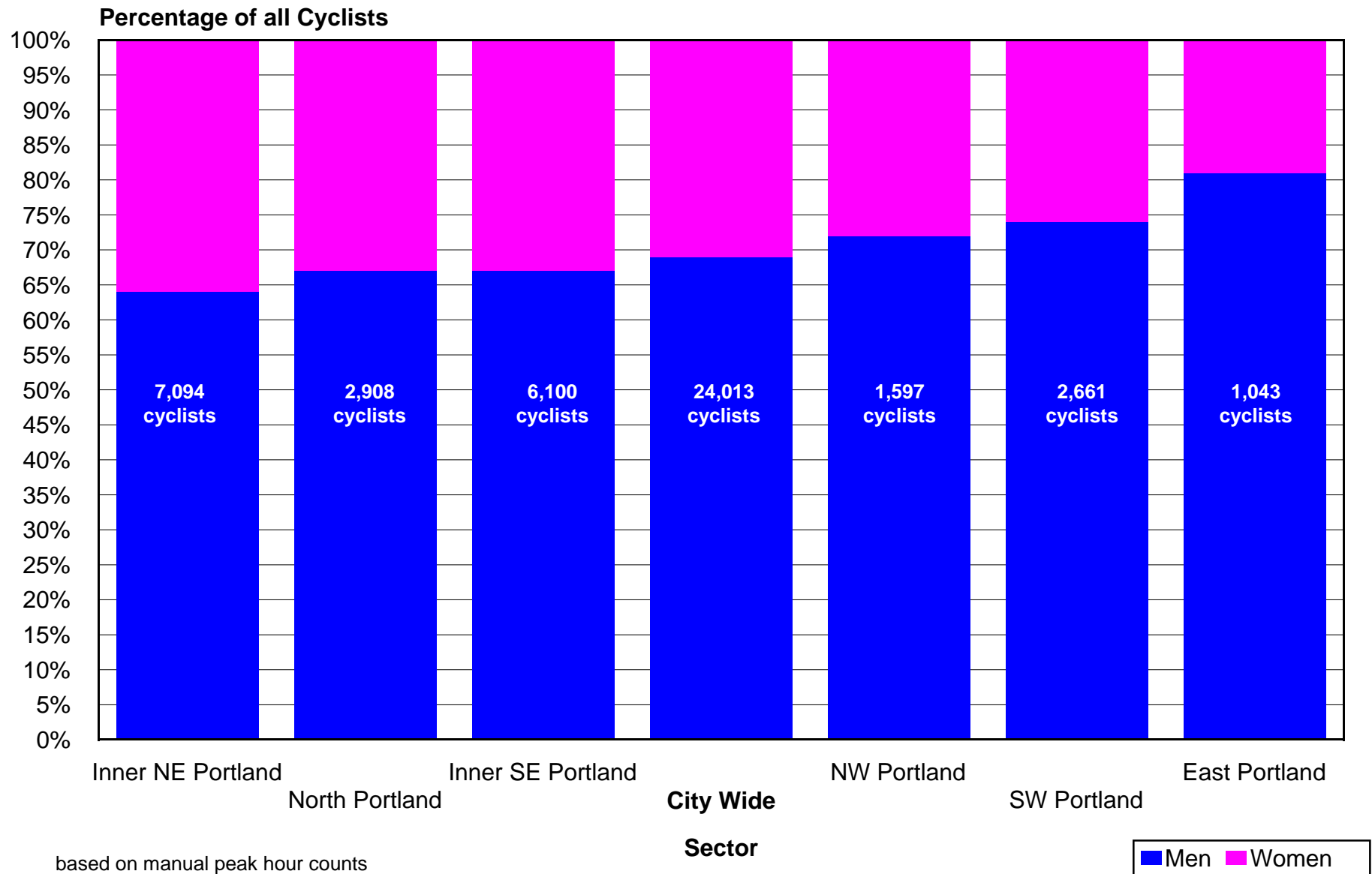
# City of Portland Bicycle Counts by Year By Gender



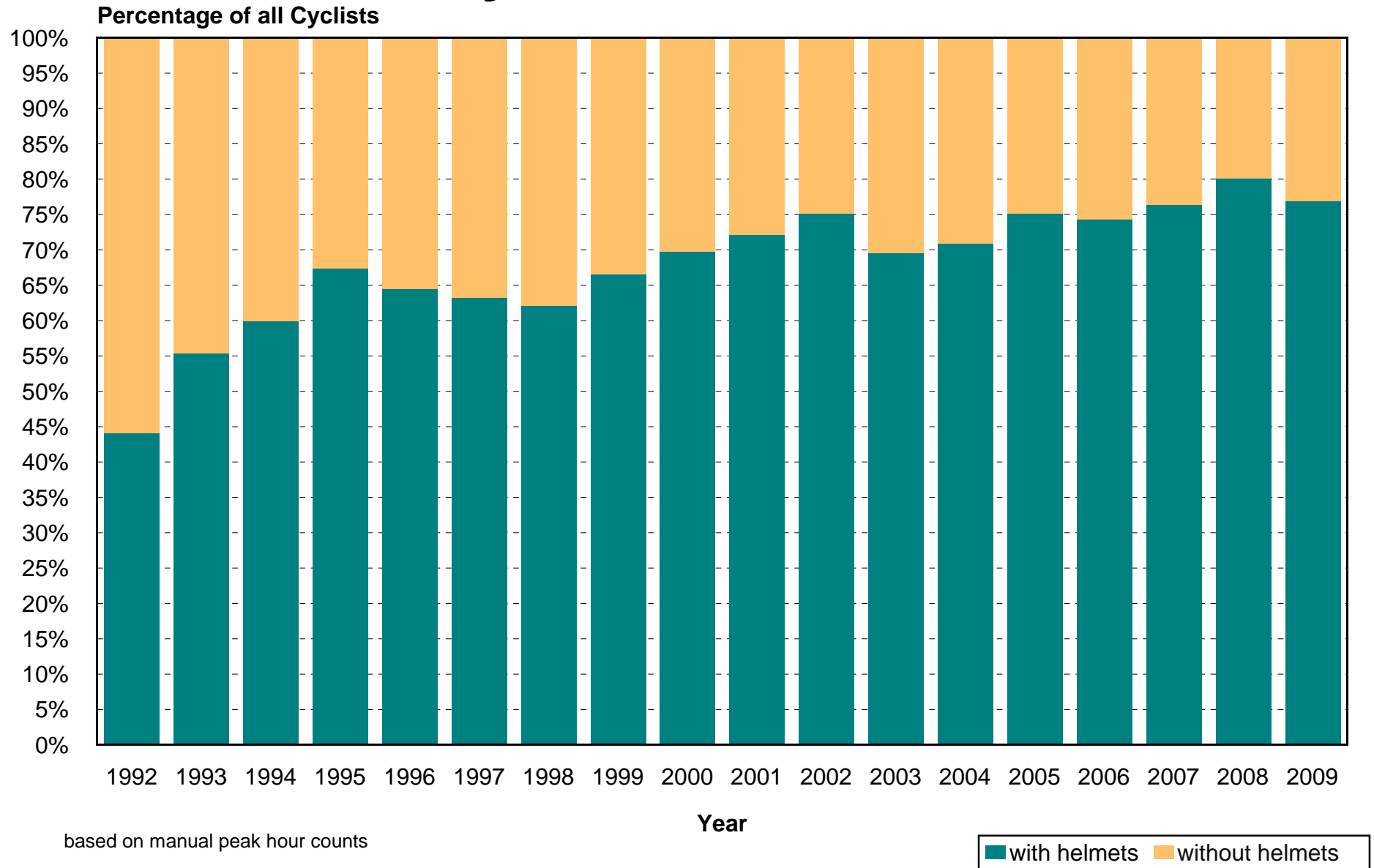
based on manual peak hour counts

# City of Portland Bicycle Counts by Sector 2009

## By Gender

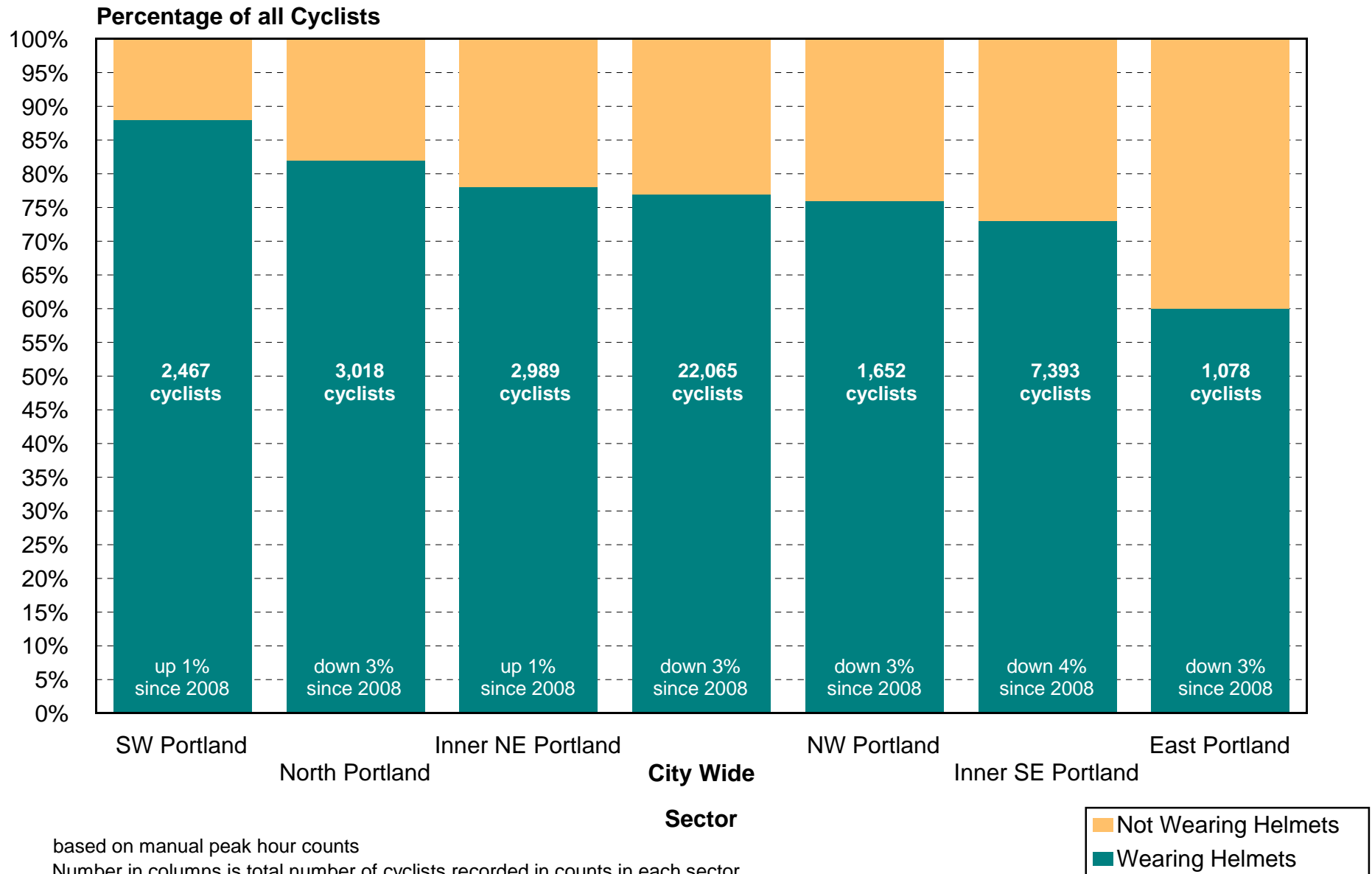


# City of Portland Bicycle Counts by Year By Helmet Use



# City of Portland Bicycle Counts by Sector 2009

## By Helmet Use





# City of Portland Bicycle Counts by Year

## Gender and Helmet Use

### Citywide

	Male Cyclists			Female Cyclists			Percentages									Male Cyclists as % of all cyclists		Female Cyclists as % of all cyclists		Based on
	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	Male Cyclists			Female Cyclists			All Cyclists		w/ helmets	w/o helmets	w/ helmets	w/o helmets		
							w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets						
1992	153	205	358	46	47	93	43%	57%	79%	49%	51%	21%	44%	56%	34%	45%	10%	10%	451 cyclists	
1993	229	211	440	101	55	156	52%	48%	74%	65%	35%	26%	55%	45%	38%	35%	17%	9%	596 cyclists	
1994	75	54	129	28	15	43	58%	42%	75%	65%	35%	25%	60%	40%	44%	31%	16%	9%	172 cyclists	
1995	842	401	1,243	320	162	482	68%	32%	72%	66%	34%	28%	67%	33%	49%	23%	19%	9%	1,725 cyclists	
1996	904	548	1,452	335	135	470	62%	38%	76%	71%	29%	24%	64%	36%	47%	29%	17%	7%	1,922 cyclists	
1997	2,126	1,428	3,554	900	337	1,237	60%	40%	74%	73%	27%	26%	63%	37%	44%	30%	19%	7%	4,791 cyclists	
1998	2,229	1,518	3,747	901	395	1,296	59%	41%	74%	70%	30%	26%	62%	38%	44%	30%	18%	8%	5,043 cyclists	
1999	1,978	1,109	3,087	764	264	1,028	64%	36%	75%	74%	26%	25%	67%	33%	48%	27%	19%	6%	4,115 cyclists	
2000	2,364	1,111	3,475	899	301	1,200	68%	32%	74%	75%	25%	26%	70%	30%	51%	24%	19%	6%	4,675 cyclists	
2001	3,734	1,618	5,352	1,632	457	2,089	70%	30%	72%	78%	22%	28%	72%	28%	50%	22%	22%	6%	7,441 cyclists	
2002	363	126	489	138	40	178	74%	26%	73%	78%	22%	27%	75%	25%	54%	19%	21%	6%	667 cyclists	
2003	1,854	891	2,745	910	322	1,232	68%	32%	69%	74%	26%	31%	69%	31%	47%	22%	23%	8%	3,977 cyclists	
2004	1,401	637	2,038	674	216	890	69%	31%	70%	76%	24%	30%	71%	29%	48%	22%	23%	7%	2,928 cyclists	
2005	1,064	393	1,457	528	136	664	73%	27%	69%	80%	20%	31%	75%	25%	50%	19%	25%	6%	2,121 cyclists	
2006	4,316	1,703	6,019	2,048	502	2,550	72%	28%	70%	80%	20%	30%	74%	26%	50%	20%	24%	6%	8,569 cyclists	
2007	6,649	2,366	9,015	3,369	724	4,093	74%	26%	69%	82%	18%	31%	76%	24%	51%	18%	26%	6%	13,108 cyclists	
2008	12,944	3,784	16,728	6,754	1,108	7,862	77%	23%	68%	86%	14%	32%	80%	20%	53%	15%	27%	5%	24,590 cyclists	
2009	11,340	3,887	15,227	5,619	1,219	6,838	74%	26%	69%	82%	18%	31%	77%	23%	51%	18%	25%	6%	22,065 cyclists	
Total	54,565	21,990	76,555	25,966	6,435	32,401	71%	29%	70%	80%	20%	30%	74%	26%	50%	20%	24%	6%	108,956 cyclists	

# City of Portland Bicycle Counts by Year

## Gender and Helmet Use

### North Portland

	Male Cyclists			Female Cyclists			Percentages									Male Cyclists as % of		Female Cyclists as %		Based on
	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	Male Cyclists			Female Cyclists			All Cyclists		all cyclists		of all cyclists			
							w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	w/ helmets	w/o helmets	w/ helmets	w/o helmets		
1992	62	45	107	16	6	22	58%	42%	83%	73%	27%	17%	60%	40%	48%	35%	12%	5%	129 cyclists	
1993	0	0	0	0	0	0													0 cyclists	
1994	0	0	0	0	0	0													0 cyclists	
1995	40	19	59	19	2	21	68%	32%	74%	90%	10%	26%	74%	26%	50%	24%	24%	3%	80 cyclists	
1996	0	0	0	0	0	0													0 cyclists	
1997	156	146	302	71	29	100	52%	48%	75%	71%	29%	25%	56%	44%	39%	36%	18%	7%	402 cyclists	
1998	197	119	316	92	40	132	62%	38%	71%	70%	30%	29%	65%	35%	44%	27%	21%	9%	448 cyclists	
1999	170	128	298	60	28	88	57%	43%	77%	68%	32%	23%	60%	40%	44%	33%	16%	7%	386 cyclists	
2000	403	133	536	159	41	200	75%	25%	73%	80%	21%	27%	76%	24%	55%	18%	22%	6%	736 cyclists	
2001	821	375	1,196	359	91	450	69%	31%	73%	80%	20%	27%	72%	28%	50%	23%	22%	6%	1,646 cyclists	
2002	88	28	116	63	10	73	76%	24%	61%	86%	14%	39%	80%	20%	47%	15%	33%	5%	189 cyclists	
2003	301	161	462	153	42	195	65%	35%	70%	78%	22%	30%	69%	31%	46%	25%	23%	6%	657 cyclists	
2004	148	65	213	69	32	101	69%	31%	68%	68%	32%	32%	69%	31%	47%	21%	22%	10%	314 cyclists	
2005	0	0	0	0	0	0													0 cyclists	
2006	1,197	349	1,546	694	112	806	77%	23%	66%	86%	14%	34%	80%	20%	51%	15%	30%	5%	2,352 cyclists	
2007	1,058	361	1,419	543	95	638	75%	25%	69%	85%	15%	31%	78%	22%	51%	18%	26%	5%	2,057 cyclists	
2008	3,762	822	4,584	2,238	272	2,510	82%	18%	65%	89%	11%	35%	85%	15%	53%	12%	32%	4%	7,094 cyclists	
2009	1,615	411	2,026	873	119	992	80%	20%	67%	88%	12%	33%	82%	18%	54%	14%	29%	4%	3,018 cyclists	
Total	10,018	3,162	13,180	5,409	919	6,328	76%	24%	68%	85%	15%	32%	79%	21%	51%	16%	28%	5%	19,508 cyclists	

### Northwest Portland

	Male Cyclists			Female Cyclists			Percentages									Male Cyclists as % of all cyclists		Female Cyclists as % of all cyclists		Based on
	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	Male Cyclists			Female Cyclists			All Cyclists							
							w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets						
1992	4	18	22	4	5	9	18%	82%	71%	44%	56%	29%	26%	74%	13%	58%	13%	16%	31 cyclists	
1993	52	40	92	22	14	36	57%	43%	72%	61%	39%	28%	58%	42%	41%	31%	17%	11%	128 cyclists	
1994	0	0	0	0	0	0													0 cyclists	
1995	59	63	122	15	11	26	48%	52%	82%	58%	42%	18%	50%	50%	40%	43%	10%	7%	148 cyclists	
1996	19	28	47	12	7	19	40%	60%	71%	63%	37%	29%	47%	53%	29%	42%	18%	11%	66 cyclists	
1997	231	233	464	82	43	125	50%	50%	79%	66%	34%	21%	53%	47%	39%	40%	14%	7%	589 cyclists	
1998	180	173	353	63	39	102	51%	49%	78%	62%	38%	22%	53%	47%	40%	38%	14%	9%	455 cyclists	
1999	200	161	361	75	33	108	55%	45%	77%	69%	31%	23%	59%	41%	43%	34%	16%	7%	469 cyclists	
2000	270	207	477	84	72	156	57%	43%	75%	54%	46%	25%	56%	44%	43%	33%	13%	11%	633 cyclists	
2001	304	140	444	133	40	173	68%	32%	72%	77%	23%	28%	71%	29%	49%	23%	22%	6%	617 cyclists	
2002	150	80	230	54	29	83	65%	35%	73%	65%	35%	27%	65%	35%	48%	26%	17%	9%	313 cyclists	
2003	18	9	27	9	4	13	67%	33%	68%	69%	31%	33%	68%	33%	45%	23%	23%	10%	40 cyclists	
2004	66	52	118	16	8	24	56%	44%	83%	67%	33%	17%	58%	42%	46%	37%	11%	6%	142 cyclists	
2005	35	29	64	22	2	24	55%	45%	73%	92%	8%	27%	65%	35%	40%	33%	25%	2%	88 cyclists	
2006	87	53	140	31	26	57	62%	38%	71%	54%	46%	29%	60%	40%	44%	27%	16%	13%	197 cyclists	
2007	322	133	455	150	51	201	71%	29%	69%	75%	25%	31%	72%	28%	49%	20%	23%	8%	656 cyclists	
2008	867	257	1,124	387	86	473	77%	23%	70%	82%	18%	30%	79%	21%	54%	16%	24%	5%	1,597 cyclists	
2009	870	324	1,194	381	77	458	73%	27%	72%	83%	17%	28%	76%	24%	53%	20%	23%	5%	1,652 cyclists	
Total	3,734	2,000	5,734	1,540	547	2,087	65%	35%	73%	74%	26%	27%	67%	33%	48%	26%	20%	7%	7,821 cyclists	

# City of Portland Bicycle Counts by Year

## Gender and Helmet Use

### Southwest Portland

	Male Cyclists			Female Cyclists			Percentages									Male Cyclists as % of all cyclists		Female Cyclists as % of all cyclists		Based on
	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	Male Cyclists			Female Cyclists			All Cyclists							
							w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	w/ helmets	w/o helmets	w/ helmets	w/o helmets		
1992	16	59	75	9	18	27	21%	79%	74%										102 cyclists	
1993	0	0	0	0	0	0													0 cyclists	
1994	8	16	24	4	6	10	33%	67%	71%										34 cyclists	
1995	130	66	196	71	23	94	66%	34%	68%										290 cyclists	
1996	179	35	214	49	8	57	84%	16%	79%										271 cyclists	
1997	405	192	597	162	30	192	68%	32%	76%										789 cyclists	
1998	471	189	660	172	43	215	71%	29%	75%										875 cyclists	
1999	273	90	363	89	20	109	75%	25%	77%										472 cyclists	
2000	374	108	482	113	28	141	78%	22%	77%										623 cyclists	
2001	92	36	128	45	1	46	72%	28%	74%										174 cyclists	
2002	125	18	143	21	1	22	87%	13%	87%										165 cyclists	
2003	180	52	232	57	14	71	78%	22%	77%										303 cyclists	
2004	0	0	0	0	0	0													0 cyclists	
2005	0	0	0	0	0	0													0 cyclists	
2006	695	85	780	220	13	233	89%	11%	77%										1,013 cyclists	
2007	1,892	441	2,333	945	97	1,042	81%	19%	69%										3,375 cyclists	
2008	3,010	740	3,750	1,385	136	1,521	80%	20%	71%										5,271 cyclists	
2008*	1,753	317	2,070	747	64	811	85%	15%	72%										2,881 cyclists	
2009	3,371	867	4,238	1,475	222	1,697	80%	20%	71%										5,935 cyclists	
2009*	1,588	242	1,830	584	53	637	87%	13%	74%										2,467 cyclists	
Total	11,221	2,994	14,215	4,817	660	5,477	79%	21%	72%	88%	12%	28%	81%	19%	57%	15%	24%	3%	19,692 cyclists	
*not including Central City																				

### East Portland

	Male Cyclists			Female Cyclists			Percentages									Male Cyclists as % of all cyclists		Female Cyclists as % of all cyclists		Based on
							Male Cyclists			Female Cyclists			All Cyclists							
	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	w/ helmets	w/o helmets	w/ helmets	w/o helmets		
1992	0	0	0	0	0	0													0 cyclists	
1993	0	0	0	0	0	0													0 cyclists	
1994	0	0	0	0	0	0													0 cyclists	
1995	0	0	0	0	0	0													0 cyclists	
1996	0	0	0	0	0	0													0 cyclists	
1997	0	0	0	0	0	0													0 cyclists	
1998	0	0	0	0	0	0													0 cyclists	
1999	0	0	0	0	0	0													0 cyclists	
2000	0	0	0	0	0	0													0 cyclists	
2001	0	0	0	0	0	0													0 cyclists	
2002	0	0	0	0	0	0													0 cyclists	
2003	0	0	0	0	0	0													0 cyclists	
2004	0	0	0	0	0	0													0 cyclists	
2005	0	0	0	0	0	0													0 cyclists	
2006	71	153	224	16	18	34	32%	68%	87%	47%	53%	13%	34%	66%	28%	59%	6%	7%	258 cyclists	
2007	241	187	428	61	37	98	56%	44%	81%	62%	38%	19%	57%	43%	46%	36%	12%	7%	526 cyclists	
2008	511	337	848	150	45	195	60%	40%	81%	77%	23%	19%	63%	37%	49%	32%	14%	4%	1,043 cyclists	
2009	506	372	878	143	57	200	58%	42%	81%	72%	29%	19%	60%	40%	47%	35%	13%	5%	1,078 cyclists	
Total	1,329	1,049	2,378	370	157	527	56%	44%	82%	70%	30%	18%	58%	42%	46%	36%	13%	5%	2,905 cyclists	

# City of Portland Bicycle Counts by Year

## Gender and Helmet Use

### Inner NE Portland

	Male Cyclists			Female Cyclists			Percentages									Male Cyclists as % of		Female Cyclists as %		Based on
	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	Male Cyclists			Female Cyclists			All Cyclists		of all cyclists		of all cyclists			
							w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	w/ helmets	w/o helmets	w/ helmets	w/o helmets		
1992	70	71	141	17	16	33	50%	50%	81%	52%	48%	19%	50%	50%	40%	41%	10%	9%	174 cyclists	
1993	177	171	348	79	41	120	51%	49%	74%	66%	34%	26%	55%	45%	38%	37%	17%	9%	468 cyclists	
1994	67	38	105	24	9	33	64%	36%	76%	73%	27%	24%	66%	34%	49%	28%	17%	7%	138 cyclists	
1995	311	110	421	124	66	190	74%	26%	69%	65%	35%	31%	71%	29%	51%	18%	20%	11%	611 cyclists	
1996	412	301	713	128	79	207	58%	42%	78%	62%	38%	23%	59%	41%	45%	33%	14%	9%	920 cyclists	
1997	736	517	1,253	335	124	459	59%	41%	73%	73%	27%	27%	63%	37%	43%	30%	20%	7%	1,712 cyclists	
1998	929	770	1,699	393	180	573	55%	45%	75%	69%	31%	25%	58%	42%	41%	34%	17%	8%	2,272 cyclists	
1999	656	367	1,023	254	97	351	64%	36%	74%	72%	28%	26%	66%	34%	48%	27%	18%	7%	1,374 cyclists	
2000	627	367	994	262	86	348	63%	37%	74%	75%	25%	26%	66%	34%	47%	27%	20%	6%	1,342 cyclists	
2001	1,416	690	2,106	615	177	792	67%	33%	73%	78%	22%	27%	70%	30%	49%	24%	21%	6%	2,898 cyclists	
2002	0	0	0	0	0	0													0 cyclists	
2003	402	272	674	233	126	359	60%	40%	65%	65%	35%	35%	61%	39%	39%	26%	23%	12%	1,033 cyclists	
2004	246	134	380	116	47	163	65%	35%	70%	71%	29%	30%	67%	33%	45%	25%	21%	9%	543 cyclists	
2005	0	0	0	0	0	0													0 cyclists	
2006	927	494	1,421	464	140	604	65%	35%	70%	77%	23%	30%	69%	31%	46%	24%	23%	7%	2,025 cyclists	
2007	985	362	1,347	540	134	674	73%	27%	67%	80%	20%	33%	75%	25%	49%	18%	27%	7%	2,021 cyclists	
2008	1,408	480	1,888	839	181	1,020	75%	25%	65%	82%	18%	35%	77%	23%	48%	17%	29%	6%	2,908 cyclists	
2009	1,452	469	1,921	878	190	1,068	76%	24%	64%	82%	18%	36%	78%	22%	48.58%	15.69%	29.37%	6.36%	2,989 cyclists	
Total	10,821	5,613	16,434	5,301	1,693	6,994	66%	34%	70%	76%	24%	30%	69%	31%	46%	24%	23%	7%	23,428 cyclists	

### Inner SE Portland

	Male Cyclists			Female Cyclists			Percentages									Male Cyclists as % of all cyclists		Female Cyclists as % of all cyclists		Based on
							Male Cyclists			Female Cyclists			All Cyclists							
	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	Total	w/ helmets	w/o helmets	w/ helmets	w/o helmets	w/ helmets	w/o helmets		
1992	1	12	13	0	2	2	8%	92%	87%				7%	93%	7%	80%	0%	13%	15 cyclists	
1993	0	0	0	0	0	0													0 cyclists	
1994	0	0	0	0	0	0													0 cyclists	
1995	302	143	445	91	60	151	68%	32%	75%	60%	40%	25%	66%	34%	51%	24%	15%	10%	596 cyclists	
1996	294	184	478	146	41	187	62%	38%	72%	78%	22%	28%	66%	34%	44%	28%	22%	6%	665 cyclists	
1997	598	340	938	250	111	361	64%	36%	72%	69%	31%	28%	65%	35%	46%	26%	19%	9%	1,299 cyclists	
1998	452	267	719	181	93	274	63%	37%	72%	66%	34%	28%	64%	36%	46%	27%	18%	9%	993 cyclists	
1999	679	363	1,042	286	86	372	65%	35%	74%	77%	23%	26%	68%	32%	48%	26%	20%	6%	1,414 cyclists	
2000	690	296	986	281	74	355	70%	30%	74%	79%	21%	26%	72%	28%	51%	22%	21%	6%	1,341 cyclists	
2001	1,101	377	1,478	480	148	628	74%	26%	70%	76%	24%	30%	75%	25%	52%	18%	23%	7%	2,106 cyclists	
2002	0	0	0	0	0	0													0 cyclists	
2003	953	397	1,350	458	136	594	71%	29%	69%	77%	23%	31%	73%	27%	49%	20%	24%	7%	1,944 cyclists	
2004	941	386	1,327	473	129	602	71%	29%	69%	79%	21%	31%	73%	27%	49%	20%	25%	7%	1,929 cyclists	
2005	1,029	364	1,393	506	134	640	74%	26%	69%	79%	21%	31%	76%	24%	51%	18%	25%	7%	2,033 cyclists	
2006	1,339	569	1,908	623	193	816	70%	30%	70%	76%	24%	30%	72%	28%	49%	21%	23%	7%	2,724 cyclists	
2007	2,151	882	3,033	1,130	310	1,440	71%	29%	68%	78%	22%	32%	73%	27%	48%	20%	25%	7%	4,473 cyclists	
2008	3,386	1,148	4,534	1,755	388	2,143	75%	25%	68%	82%	18%	32%	77%	23%	51%	17%	26%	6%	6,677 cyclists	
2009	3,526	1,444	4,970	1,869	554	2,423	71%	29%	67%	77%	23%	33%	73%	27%	48%	20%	25%	7%	7,393 cyclists	
Total	17,442	7,172	24,614	8,529	2,459	10,988	71%	29%	69%	78%	22%	31%	73%	27%	49%	20%	24%	7%	35,602 cyclists	

**Bicycle And Auto Counts on the Four Main Bicycle-Friendly Downtown Bridges**  
**1991-2009**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Broadway</b>																			
bikes	495	755	735	690	527	950	1,205	1,854	1,476	1,405	1,680	1,712	1,683		2,081	2,856	3,872	4,315	3,825
autos	30,215	30,215	30,034	30,215	30,395	31,630	31,630	32,864	32,420	24,375	26,946	27,262	27,261	27,261	27,259	27,259	27,259	27,259	28,395
% bikes of all vehicles	2%	2%	2%	2%	2%	3%	4%	5%	4%	5%	6%	6%	6%	0%	7%	9%	12%	14%	12%
auto change since 1991		0%	-1%	0%	1%	5%	5%	9%	7%	-19%	-11%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-6%
bike increase since 1991		53%	48%	39%	6%	92%	143%	275%	198%	184%	239%	246%	240%	-100%	320%	477%	682%	772%	673%
Annual % change		53%	-3%	-6%	-24%	80%	27%	54%	-20%	-5%	20%	2%	-2%	-100%	24%	37%	36%	11%	-11%
<b>Steel</b>																			
bikes	230	230	220	220	200	350	475	460	360	410	1,250	1,891	1,860	3,482	2,112	2,373	2,943	2,982	3,101
autos	18,740	18,740	19,761	18,740	18,740	17,719	15,827	16,717	18,279	17,780	19,121	17,264	17,264	17,264	17,264	17,264	17,264	17,264	14,152
% bikes of all vehicles	1%	1%	1%	1%	1%	2%	3%	3%	2%	2%	6%	10%	10%	17%	11%	12%	15%	15%	18%
auto change since 1991		0%	5%	0%	0%	-5%	-16%	-11%	-2%	-5%	2%	-8%	-8%	-8%	-8%	-8%	-8%	-8%	-24%
bike increase since 1991		0%	-4%	-4%	-13%	52%	107%	100%	57%	78%	443%	722%	709%	1414%	818%	932%	1180%	1197%	1248%
Annual % change		0%	-4%	0%	-9%	75%	36%	-3%	-22%	14%	205%	51%	-2%	87%	14%	12%	24%	1%	4%
<b>Burnside</b>																			
bikes	740	1,075	1,010	980	620	1,065	1,375	905	920	1,080	965	965	965	965	1,170	1,260	1,325	2,035	1,760
autos	35,209	37,618	37,618	37,618	37,618	37,618	40,027	45,060	47,564	45,846	49,247	40,884	39,985	39,985	39,085	39,085	39,085	39,085	33,184
% bikes of all vehicles	2%	3%	3%	3%	2%	3%	3%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%
auto change since 1991		7%	7%	7%	7%	7%	14%	28%	35%	30%	40%	16%	14%	14%	11%	11%	11%	11%	-6%
bike increase since 1991		45%	36%	32%	-16%	44%	86%	22%	24%	46%	30%	30%	30%	30%	58%	70%	79%	175%	138%
Annual % change		45%	-6%	-3%	-37%	72%	29%	-34%	2%	17%	-11%	0%	0%	0%	21%	8%	5%	54%	-14%
<b>Hawthorne</b>																			
bikes	1,390	1,500	1,920	1,940	1,910	2,165	2,170	2,471	3,154	3,125	3,729	3,682	4,055	4,428	4,829	5,557	6,423	7,379	7,063
autos	29,041	29,041	25,877	29,041	29,041	33,041	27,496	28,145	23,437	36,249	29,674	29,674	29,674	29,674	29,412	29,412	29,412	29,412	26,129
% bikes of all vehicles	5%	5%	7%	6%	6%	6%	7%	8%	12%	8%	11%	11%	12%	13%	14%	16%	18%	20%	21%
auto change since 1991		0%	-11%	0%	0%	14%	-5%	-3%	-19%	25%	2%	2%	2%	2%	1%	1%	1%	1%	-10%
bike increase since 1991		8%	38%	40%	37%	56%	56%	78%	127%	125%	168%	165%	192%	219%	247%	300%	362%	431%	408%
Annual % change		8%	28%	1%	-2%	13%	0%	14%	28%	-1%	19%	-1%	10%	9%	9%	15%	16%	15%	-4%
<b>All Bridges</b>																			
bikes	2,855	3,560	3,885	3,830	3,257	4,530	5,225	5,690	5,910	6,020	7,624	8,250	8,563	8,875	10,192	12,046	14,563	16,711	15,749
autos	113,204	115,613	113,290	115,613	115,794	120,008	114,980	122,786	121,700	124,250	124,988	115,084	114,183	114,183	113,020	113,020	113,020	113,020	101,860
% bikes of all vehicles	2%	3%	3%	3%	3%	4%	4%	4%	5%	5%	6%	7%	7%	7%	8%	10%	11%	13%	13%
auto change since 1991		2%	0%	2%	2%	6%	2%	8%	8%	10%	10%	2%	1%	1%	0%	0%	0%	0%	-10%
bike increase since 1991		25%	36%	34%	14%	59%	83%	99%	107%	111%	167%	189%	200%	211%	257%	322%	410%	485%	452%
Annual % change		25%	9%	-1%	-15%	39%	15%	9%	4%	2%	27%	8%	4%	4%	15%	18%	21%	15%	-6%
					--interpolated or averaged (created) value														
bike increase since 2000												27%	37%	42%	47%	69%	100%	142%	162%
bike increase since 1996							15%	26%	30%	33%	68%	82%	89%	96%	125%	166%	221%	269%	248%