

---

# BICYCLE PARKING MEMO

---

**To:** Mayor's Office of Transportation and Utilities

**From:** MIP Summer Interns

---

## Summary

---

On behalf of the Mayor's Office of Transportation and Utilities (MOTU), eight Mayor's Internship Program (MIP) participants conducted a ground survey to assess the quantity and quality of available bicycle parking in Center City. The research found predictable gaps in service for high-traffic bicycle areas, despite a recent infusion of bicycle racks. **We recommend that the City implement a rubric for prioritizing new bicycle rack placement and develop an easy system for public requests to place new and repair broken bicycle racks.**

## Terminology: Informal vs. Formal bicycle parking.

---

"Informal" bicycle parking denotes an object used to lock up a bicycle when that object's primary purpose is not to be used as bicycle parking. The most common examples are street posts, trees, and parking meters.

"Formal" bicycle parking denotes bicycle racks installed for the purpose of bicycle parking.

## Background: A brief history of recent bicycle rack installations

---

Parking is a crucial feature of a city's biking infrastructure. An absence of parking options at a rider's origin or destination discourages biking as a means of transit for commuting, daily errands, or recreational activity.

In the past decade, the City of Philadelphia received three infusions of official bicycle parking. In 2005, Mayor John Street installed "staple" style racks along commercial corridors in Center City, South Philadelphia, and Fishtown. In 2008, 1,500 racks went up as part of a citywide "Adopt-a-Rack" program. In 2010, a two-year process began to install 600 staple racks and 1,500 meter racks. This process included a six-month window for residents to request a rack.

While these efforts have greatly improved the status of bicycle parking within Philadelphia, the City has not comprehensively examined these installation programs and bicycle parking as a whole. As such, MOTU requested eight MIP participants to survey and map the status of bicycle parking in Center City.

## Methods & Limitations

---

To map out bicycle parking in Center City – bounded by Vine to the north, Bainbridge to the south, and the rivers to the east and west -- two-person Bicycle Rack Assessment Teams (Assessment Teams) canvassed the neighborhood on foot. MOTU developed a user-friendly ArcGIS application that could be used on a smart phone or a tablet. Assessment Teams could also use a map and accompanying hand-written chart for tracking locations that could be later uploaded to the map from desktop computers. The map also accommodated photographs of particularly poor bicycle parking locations.

Statements about our findings should be interpreted with several advisories. The Assessment Teams' survey took place during daytime hours, typically on a Friday, over the course of five weeks (6/14/13 – 7/12/13). Usage could be influenced by ephemeral happenings in the area, particularly given Center City's popularity as a destination for tourists, conventions, and other large-scale events. The preferences for use in Center City may also differ from other parts of the city. Each neighborhood has a different population, and that population may use the bicycle infrastructure differently.

## **Findings & Analysis**

---

### *Resource Allocation*

The Assessment Teams noticed predictable patterns emerging: in areas with concentrations of classrooms, restaurants, bars, grocery stores, or coffee shops, bicycle racks were full, and riders relied heavily on informal parking. In other commercial areas, bicycle parking was used much more lightly. For example, many of the smaller streets such as Sansom St were overcapacity east of Broad St. In addition, many areas that were more residential than commercial (such as Spruce St and Pine St) have a higher number of bicycles informally parked because of the lack of formal bicycle parking. (See Figure 3 for a map of the most overburdened blocks in Philadelphia).

This mismatch of need and demand may represent failures in outreach to certain business owners, consumers, or residents. Organized and well-intentioned commercial corridors may have received bicycle racks even if they do not necessarily warrant the capacity.

### *Resource Status*

The Assessment Teams entered the neighborhood to assess the quantity and location of bicycle parking, but also to determine the physical state of the parking. The Assessment Teams logged 1,544 formal bicycle parking racks, up from 748 previous bicycle parking racks. See Figure 9 for more details on our findings. Regarding quality, relatively few racks (7%) were troubled due to wear and tear, improper installation, or conflicts in the physical environment.

## **Next Steps**

---

### *Aligning Supply and Demand*

The City can alleviate poor bicycle rack placement by developing a master plan for bicycle parking and a rubric for prioritizing bicycle rack requests. The plan and request system should be sensitive to geographic differences in demand. Other cities score the need for bicycle racks by various criteria: proximity to mass transit, commercial surroundings, and so forth.

It may be appropriate to develop a different rubric for each neighborhood, as different communities will use bicycle transit for different purposes. The City should seek the input of neighborhood groups in this process.

### *Increasing Supply*

Developing a sensible plan for bicycle rack distribution will provide Philadelphia with more to offer potential grant makers. Participating in best practices will mean that Philadelphia's requests are more competitive.

### *Fixing Racks and Engaging the Public*

Creating a public-facing portal for bicycle rack installation and repair requests will enhance the City's understanding of demand for bicycle racks. The relatively low number of bicycle racks in poor condition could also mean that an early adoption of a maintenance system will prove to be more sustainable than waiting until more racks deteriorate. Before launching the portal, it is crucial that the City undertake an inventory of potential resources for fixing bicycle racks, and implement a system for handling bicycle rack repair requests based on those resources.

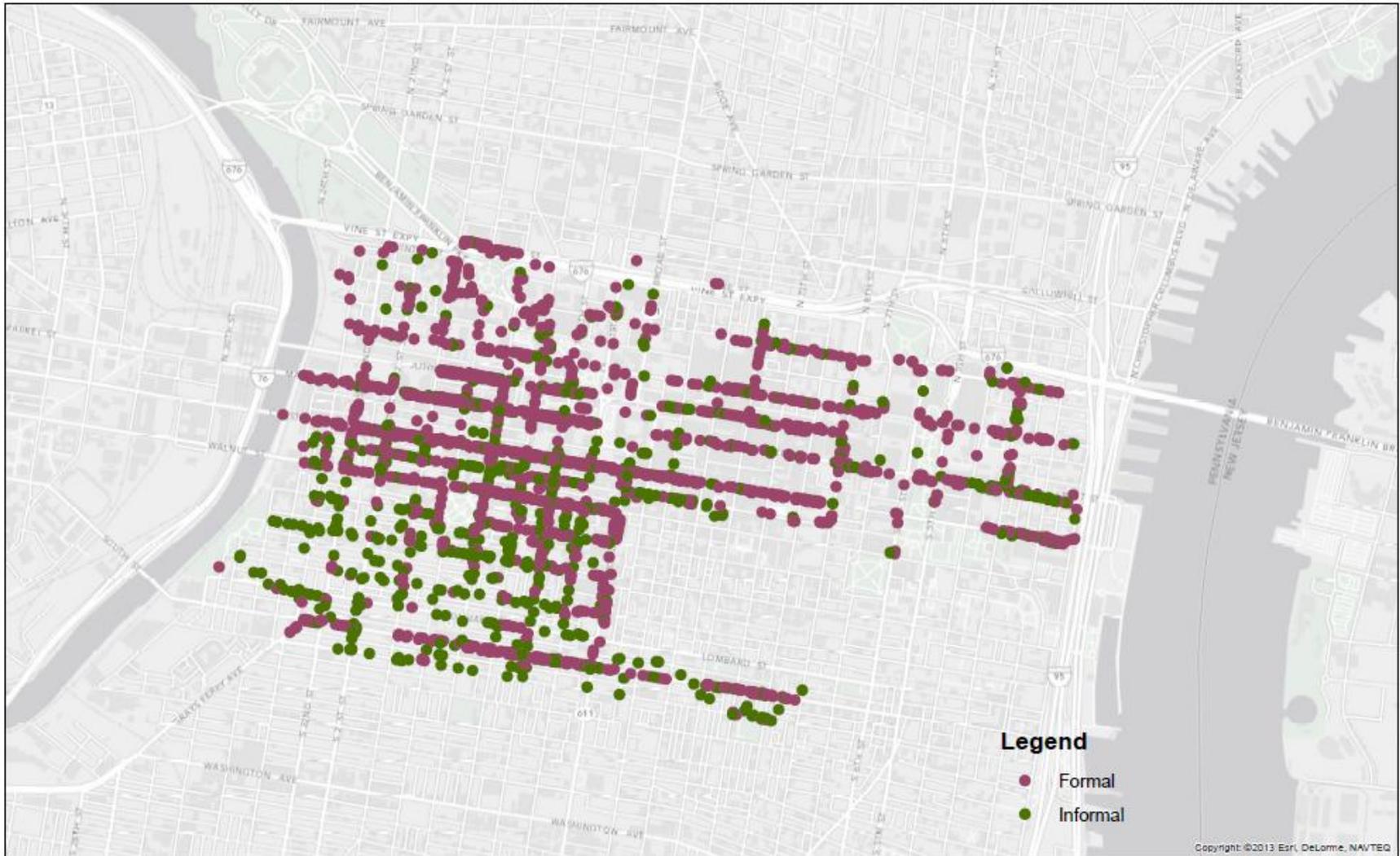
# APPENDIX



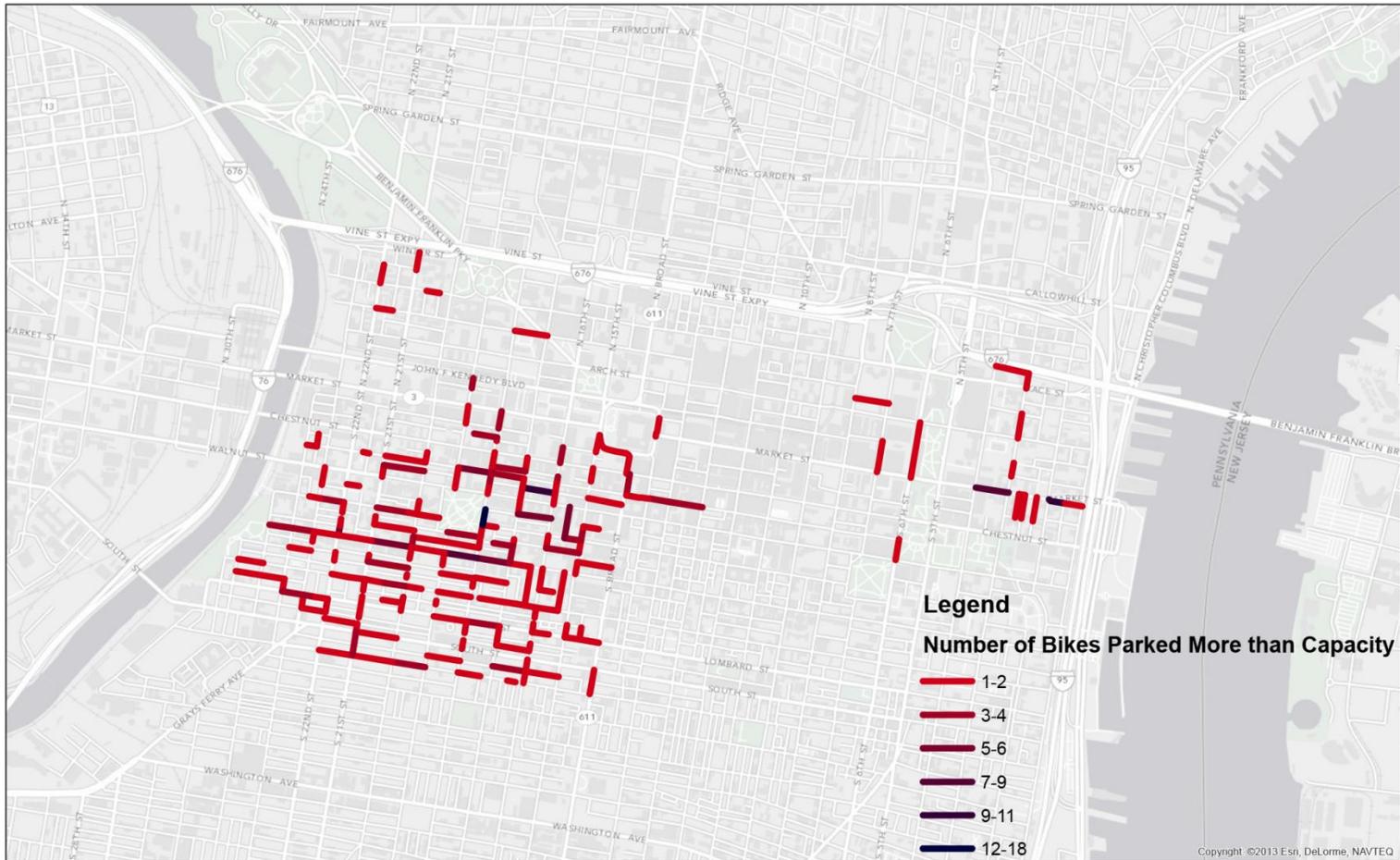
**Figure 1.** Survey zones: North (Vine street), South (Bainbridge), East (Schuylkill River), West (Front street) and inter-zone boundaries from East to West (19<sup>th</sup> street, Broad street, and 8<sup>th</sup> Street).



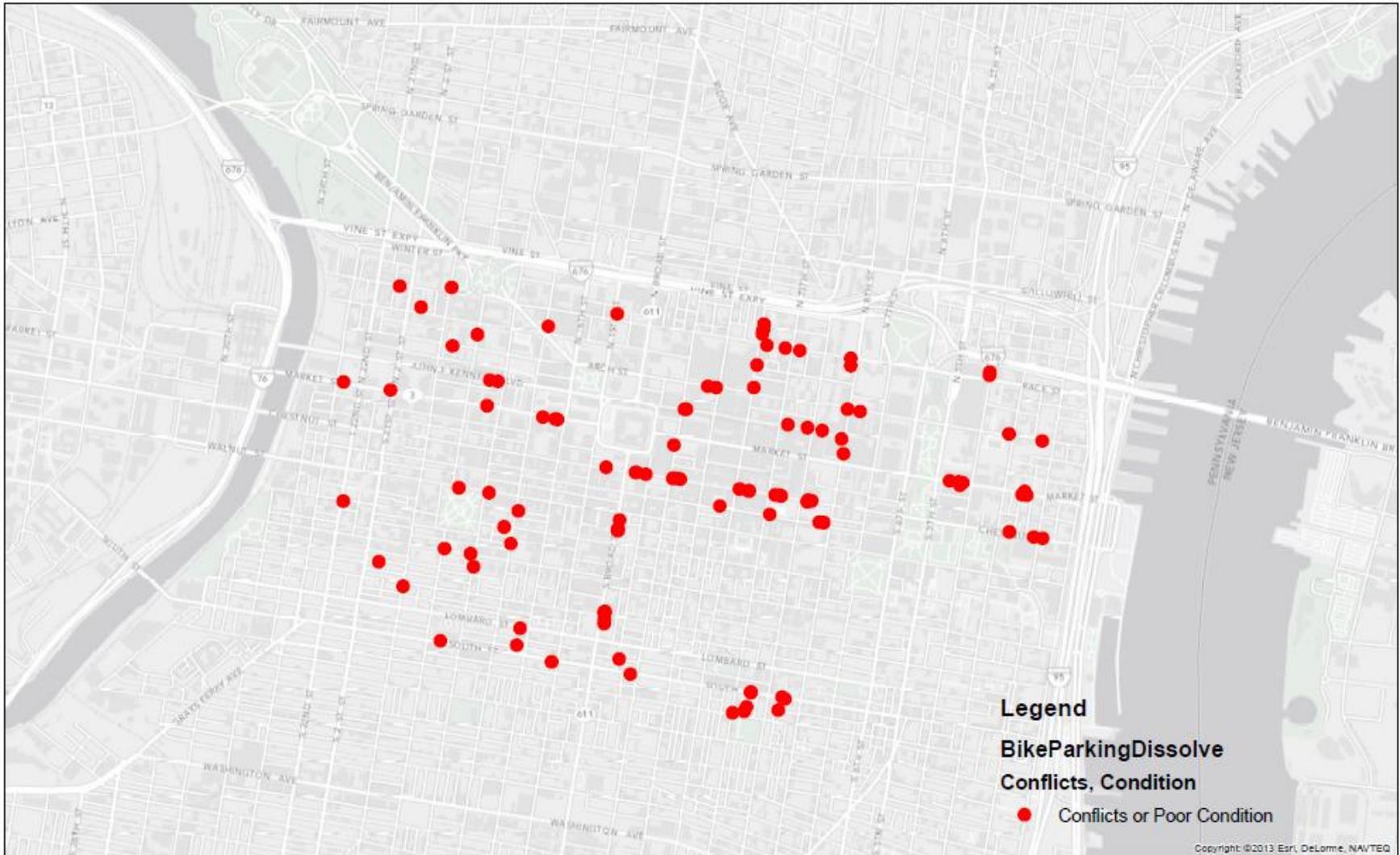
**Figure 2.** Survey points for bicycles parked on both formal and informal parking stations.



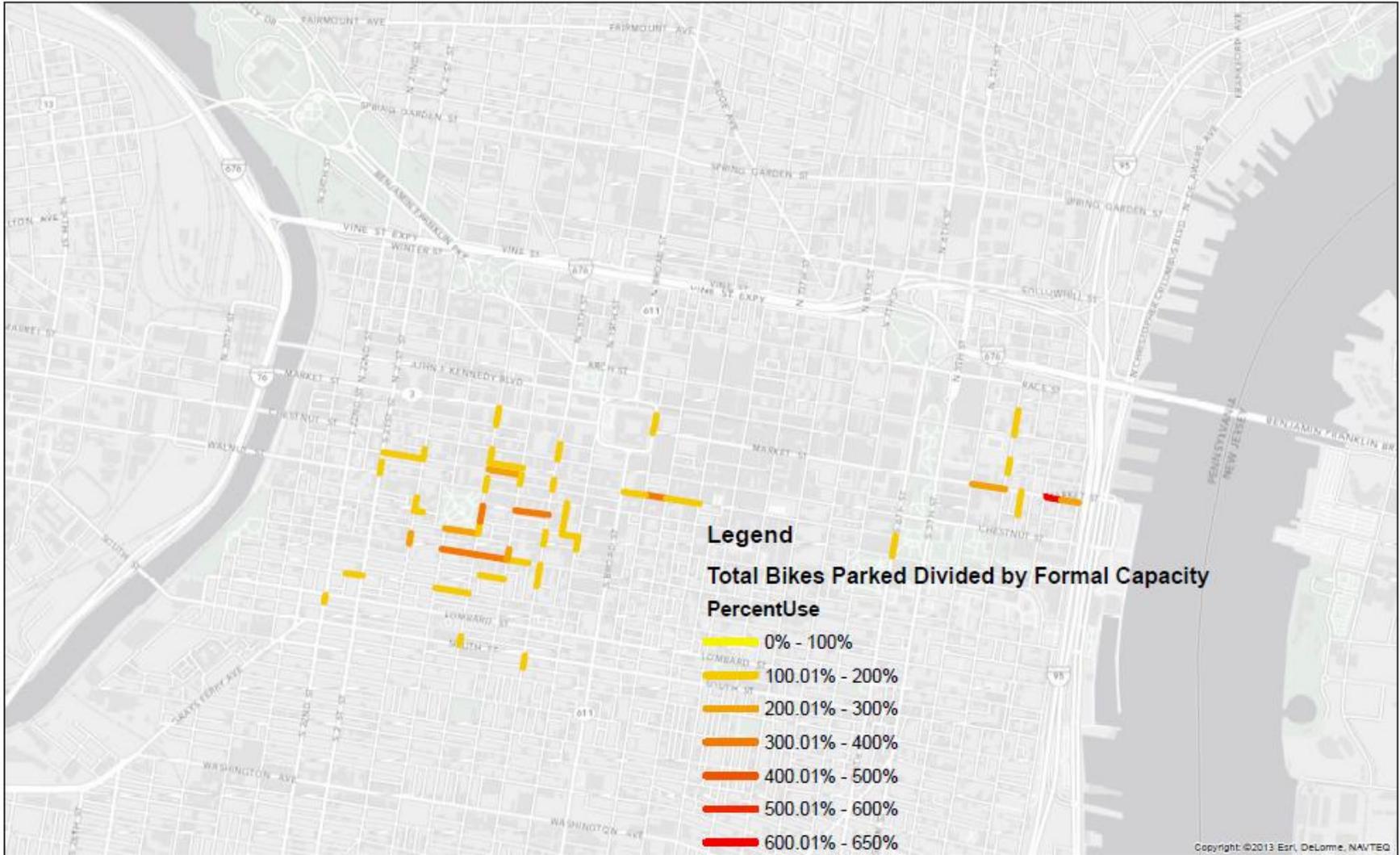
**Figure 3.** Survey points for formal (purple) and informal (green) parking stations.



**Figure 4.** Number of bicycles parked more than the number of formal bicycle parking spaces.



**Figure 5.** Bicycle racks in poor condition *or* with noted conflict.



**Figure 6.** Percent of over capacity on streets with formal bicycle parking (not enough formal bicycle racks).

Map #	Parking Type	Type of Informal Parking	Time	# Bicycles Parked	Spaces	Condition	Orientation	Zone	Conflict (Y/N)	Conflicts With?	Comments

**Figure 7.** Paper survey coding form. Parking types: Stapled or inverted-U, parking meter post, hitch style, wave, schoolyard, street corral other. Informal options included: Sign post, street lamp, tree, hand rail, fence, parking meter, other. Capacity: Number of bicycles that can be locked to a rack (2 for a typical stand-alone 2 support point rack), not accounting for conflicting objects. Bicycles Parked: Number of bicycles actually locked to the bicycle rack. Condition: Good = no visible deficiencies or problems; Fair = significantly damaged paint, some loose bolts, visible corrosion, some deformation, but STILL USABLE and SECURE; Poor = damaged to the point that some spaces are UNUSABLE or INSECURE. Orientation: Which way do bicycles face relative to the street? (Parallel, perpendicular, other). Zone: Where is the rack located along the street section? Zones are defined in the Philadelphia Complete Streets Handbook - Furnishing Zone: In the buffer between sidewalk and street, where trees, signs, benches, etc are located OR some other similar furnishing zone; Building Wall: Near the building façade; On-Street: bicycle corrals probably; Other: Totally in the walking zone or something else we haven't thought of. Conflict: Is the rack situated in a way that one or more of its potential parking spaces is difficult to use due to other street furniture, other bicycle parking, a building wall, or another clearance issue? Conflicts With: If "Yes", what does it conflict with? (leave this as text input instead of multiple-choice).



**CityRacks Request Form**

**This form must be printed out. Type or print clearly. Mail to:**

**New York City Department of Transportation**  
55 Water Street, 6<sup>th</sup> Floor  
New York, NY 10041



**CityRacks Requester:**

Your Name: \_\_\_\_\_  
Your Address: \_\_\_\_\_ Apt#: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Daytime Telephone Number: \_\_\_\_\_  
Relation to Establishment: \_\_\_\_\_  
(Owner, Customer, Manager, Employee, Student, etc.)

**Proposed Bicycle Rack Location:**

Name of Business or Establishment: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
From (Cross Street): \_\_\_\_\_ To (Cross Street): \_\_\_\_\_  
Borough: \_\_\_\_\_  
Neighborhood: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
Community Board Number (if known): \_\_\_\_\_  
Nearest Subway Station and Line Number or Letter: \_\_\_\_\_

**Additional Information/Comments:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

How did you hear of **CityRacks**?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

For a more comprehensive response, please send your request to your community board. You can locate your community board at <http://www.nyc.gov/html/cau/html/cb/directory.shtml>.

[Click here](#) if you wish to obtain a voter registration form. Government services are not conditioned on being registered to vote. A voter registration form can also be obtained at <http://nyc.gov/html/misc/html/register.html>, or by calling (212) 868-3692.

**Figure 8.** Sample bicycle rack request form (New York City Department of Transportation).

**Figure 9.** Data from Assessment.

## Bicycle Parking Stats

### General Statistics

---

Total Observed Bicycles Parked – 1,939

Total Formal Bicycle Parking Spaces – 3,890

Total Informally Parked Bicycles – 726

Total Formally Parked Bicycles – 1,213

Total Number of Points Logged – 2,081

Total Number of Formal Bicycle Racks – 1,544

Total Number of Bicycle Racks Previously Logged within Current Survey Boundaries – 748

**Miles Walked and Surveyed – 30+**

### Proximity to Transit Stations Statistics

---

Total Number of Parked Bicycles within 1/8 Mi from Subway Station – 323

Total Number of Informally Parked Bicycles within 1/8 Mi from Subway Station – 119

Total Number of Formally Parked Bicycles within 1/8 Mi from Subway Station – 104

Total Number of Formal Bicycle Parking Spaces within 1/8 Mi from Subway Station – 718

### Type of Bicycle Parking

---

#### *Formal Bicycle Parking Available*

Number of Staple or Inverted-U Racks – 780

Number of Parking Meter Posts – 537

Number of Hitch Style Racks – 4

Number of Wave Style Racks – 19

Number of School Yard Racks – 38

Number of Street Corral Racks – 8

Number of “Other” Racks – 137

#### *Informal Bicycle Parking Used*

Number of Bicycles parked to Sign Posts – 470

Number of Bicycles Parked to Street Lamps – 19

Number of Bicycles Parked to Trees – 40

Number of Bicycles Parked to a Hand Rail – 35

Number of Bicycles Parked to a Fence – 23

Number of Bicycles Parked to a Parking Meter – 27

Number of Bicycles Parked to Something Else – 35