

Table 1: Data Descriptions

	# Obs.	Avg # Obs/day	Source
Crimes - Theft	215,075	425	Chicago Police Department
Crimes - Non-Theft	128,487	253	
Building Violations	165,681	324	Chicago Department of Buildings
311 Graffiti Request	164,318	321	City of Chicago 311 Requests
311 Sanitation Request	28,537	55	
311 Alley Lights Out - Gangs	2,243	4	
311 Alley Lights Out - No Gangs	4,333	8	
311 Vacant Building - Gangs	2,243	4	
311 Vacant Building Out - No Gangs	4,333	8	
Food Inspection - Pass	16,945	33	Chicago Department of Public Health Food Protection Program
Food Inspection - Pass w/Condition	5,674	11	
Food Inspection - Fail	3,342	6	
Red Light Tickets ¹	86,817	964	Chicago Tribune
Liquor Licenses ²	4,541	n/a	Department of Business Affairs and Consumer Protection, City of Chicago
Tweets - Good Sentiment ³	1,052	n/a	Twitter
Tweets - Bad Sentiment	183	n/a	

1. Red light ticket data is only available from 12/2/2013 to 1/3/2014

2. Liquor Licenses dataset is for current licenses only so it is not shown over time.

3. Twitter dataset was added recently so there is no historical data past what was collected.

OLS Regression

$$Theft_{(t,j)} = \alpha + \beta_1 \mathbf{X}_{(t,j)} + \beta_2 \mathbf{X}_j + \epsilon_t$$

Spatial OLS Regression

$$Theft_{(t,j)} = \alpha + \beta_1 \mathbf{X}_{(t,j)} + \beta_2 \mathbf{X}_j + \beta_3 \bar{\mathbf{X}}_{(t,j_{neighbors})} + \beta_4 \bar{\mathbf{X}}_{(j_{neighbors})} + \epsilon_t$$

