What 9 Million Parking Tickets Says About Los Angeles

Tue, Oct 4, 2016

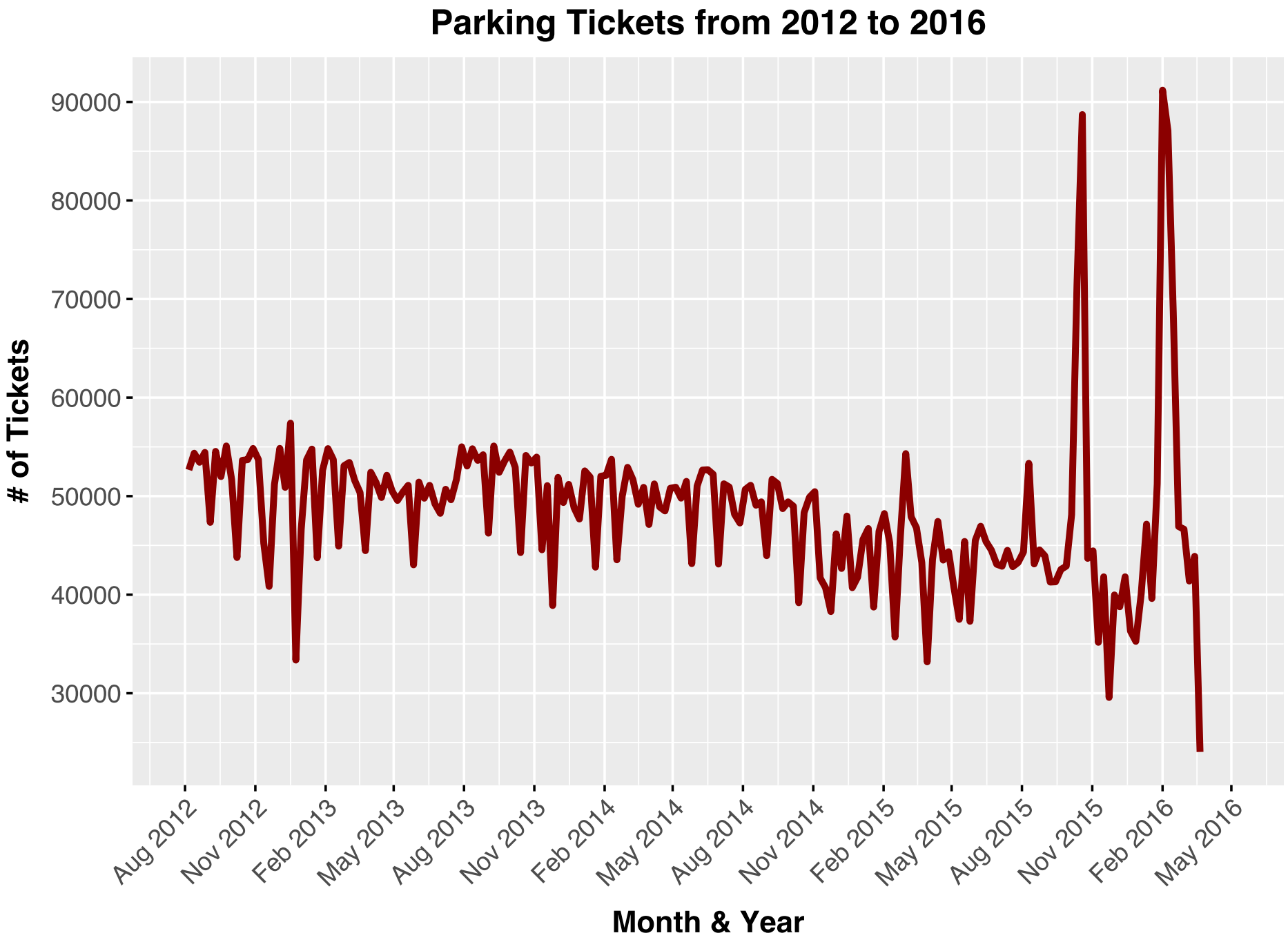
Over the last 4 years the Los Angeles Department of Transportation has given out **655 million dollars** worth of parking tickets. As a resident of Southern California, I am all too familiar with walking out to my car after running inside real quick to grab my hat and finding that dreaded sun-faded white and yellow carbon paper on my windshield. All over Los Angeles, this is happening at an astonishing rate, on average 7000 cars are being written up every day. According to DMV records, there are approximately 7.5 million registered vehicles in Los Angeles county. That means in 2015 over **1/3 of the vehicles** in Los Angeles could have been ticketed. That comes to 150 million dollars worth of tickets in 2015.

Besides my personal frustrations with the handful of parking tickets I have received over the years, I wanted to better understand the ebbs and flows of the parking enforcement in Los Angeles. The real reason I started this research was so I know how to avoid saying "Ah, &*!$" when I return to my car anywhere in Los Angeles.

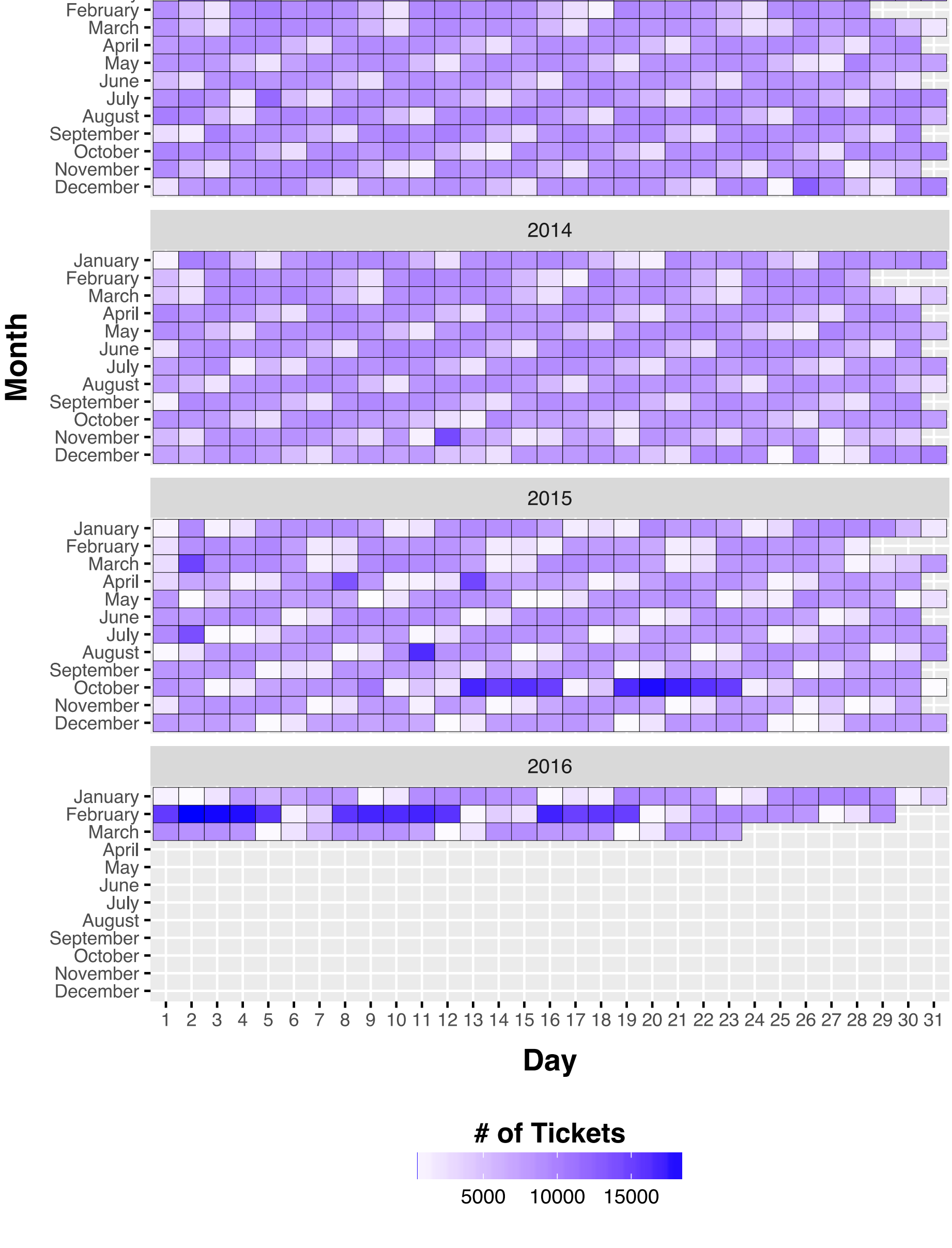
For a while now, I have known that there is a dataset that contains all of the parking tickets in Los Angeles from 2012 to 2016. I actually took a stab at trying to understand this data over a year ago before I knew how to program in R. The dataset that was uploaded is geocoded in State Plane and it was much harder to work with State Plane when the most powerful data analysis tool you know is Excel. Trying to convert 9 million rows of data with Excel proved to be challenging. My previous attempt was built with Tableau.

Now that I know a lot more about R and how to work with data better, I thought I would take another stab at this data set. The data is not the cleanest so I spent some time cleaning and getting it ready for analysis. First I had to convert the State Plane into a more common format, GPS works for most applications. I wanted to start with a more basic analysis and move into a deeper one.

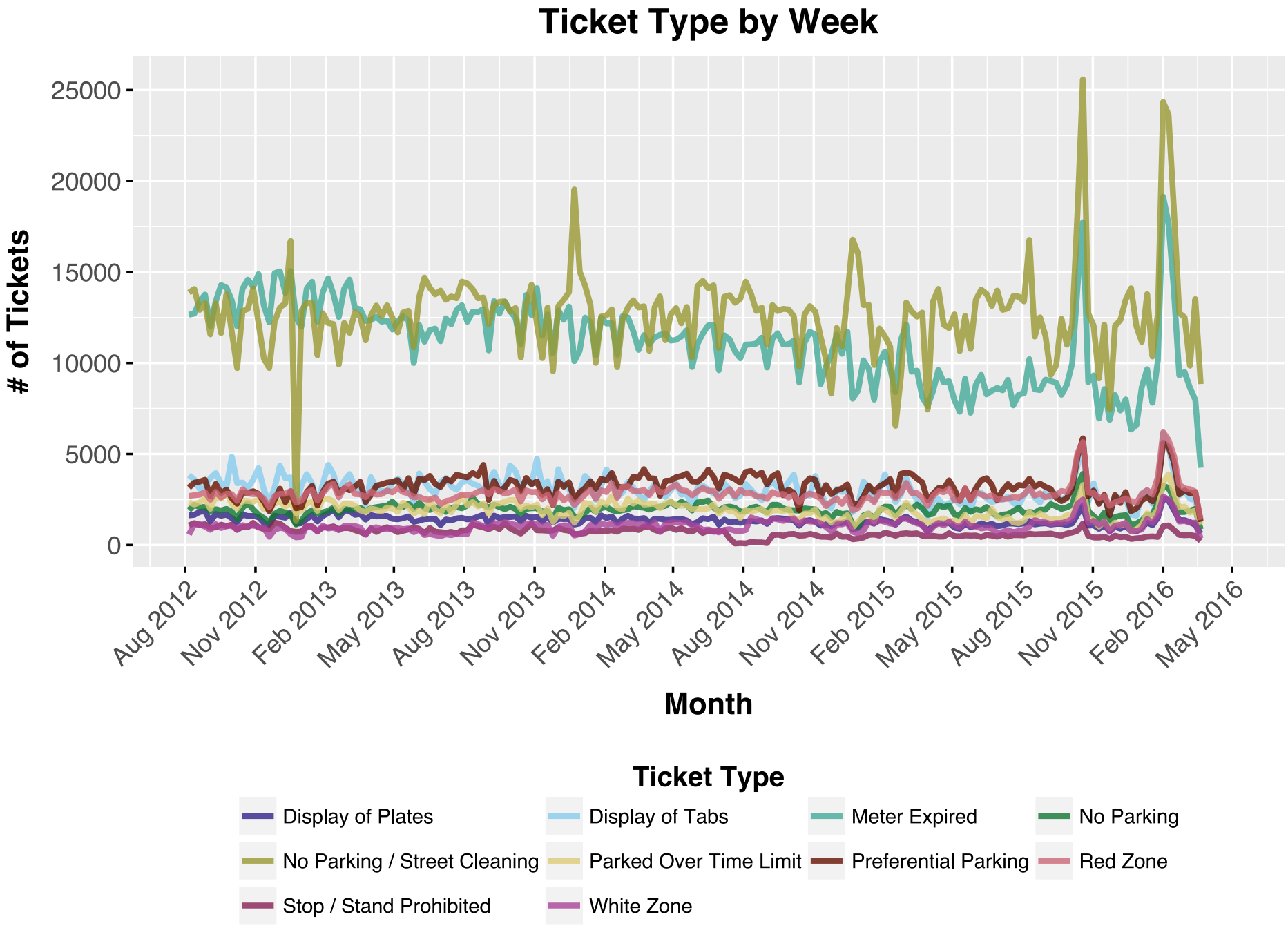
To start I wanted to show the overall volume of tickets by week over the course of the 4 years of data.



There is a very large spike in February 2016, that becomes more apparent in the breakdown of the number of parking violations by day in this heat map.

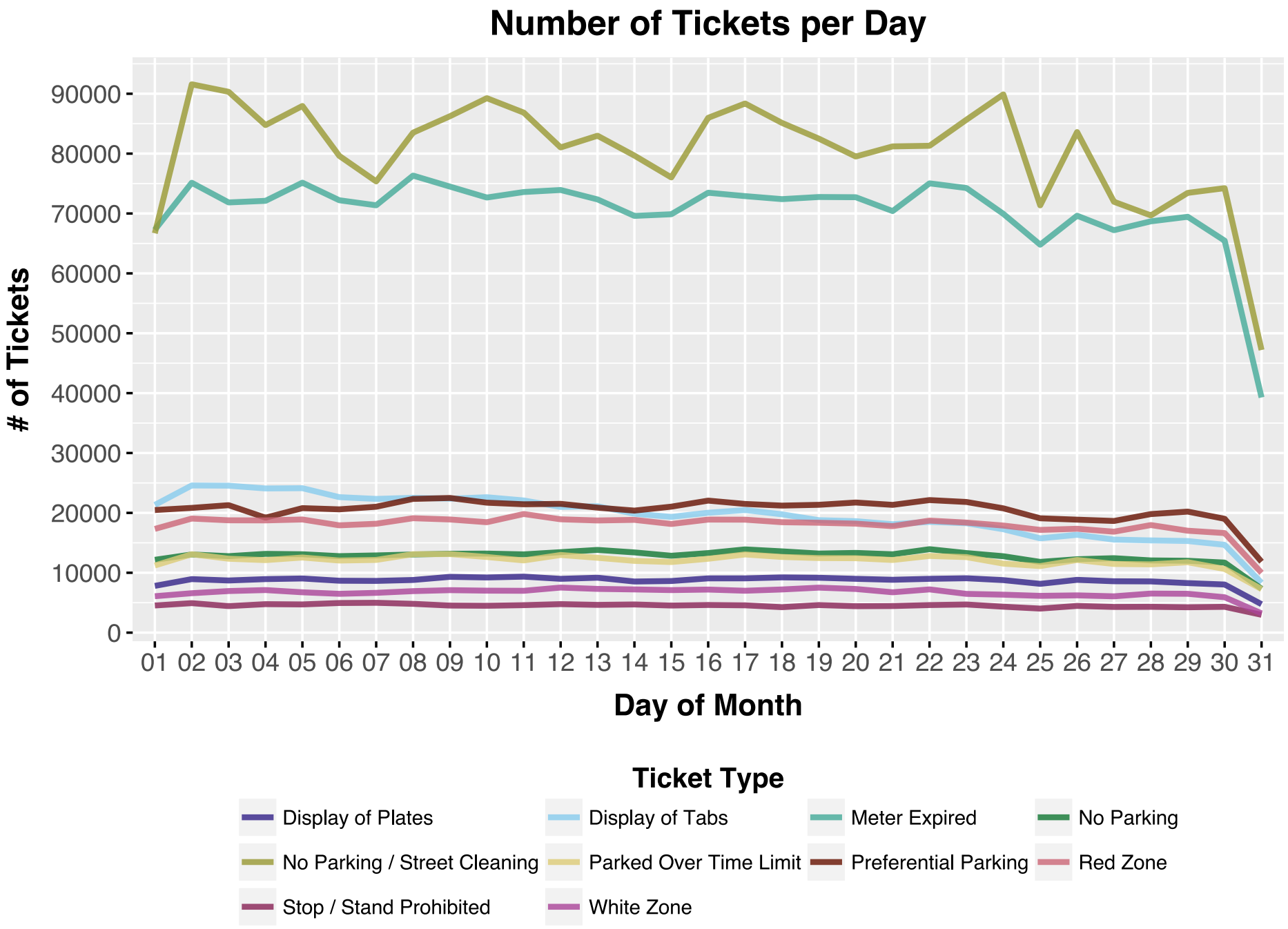

2014
2015
2016
January
February
March
April
May
June
July
August
September
October
November
December
Month
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Day
# of Tickets
5000 10000 15000

To better understand that spike, I broke down the ticket volumes by violation type.



There is an increase across the board not in just one ticket type. It is not easy to narrow down the exact reason for the spikes. Further research will need to be conducted to see what was going on in Los Angeles at this time.

Another slice of data I wanted to explore was the number of tickets given per day on any given month. I'm always hearing that police and parking officials are trying to fill a monthly quota and that causes a huge spike of tickets at the end of the month. Well, that proved to be just a legend, at least according to the data. Below is a graph showing the various ticket types and the number of tickets given per day during the month.

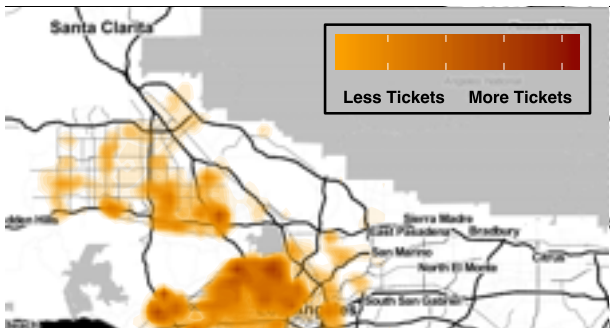


After exploring some of the data over time, I wanted to explore the spatial aspects of the tickets. Most of this data was geocoded which allows for some fun visualization. Since this data only has individual points, I started with a density plot of the most frequented tickets around Los Angeles for each ticket type. On the left is a table of the number of tickets and neighborhood. That data was geocoded using the Los Angeles Times Data Desk spatial data. The middle is a map with a density plot showing where ticket hot zones are. The right shows a heat map of the most common times for each ticket type.

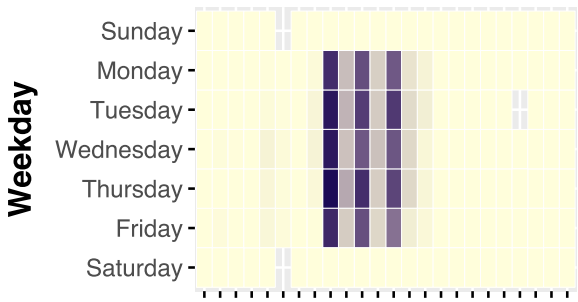
No Parking / Street Cleaning

Neighborhood	# of Tickets
Hollywood	94,793
Venice	90,178
East Hollywood	63,596
Van Nuys	61,818
Koreatown	60,443
Westlake	60,038

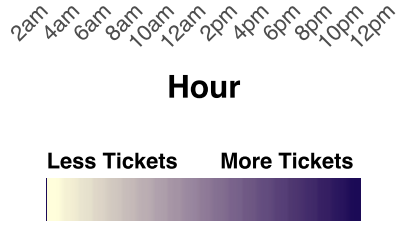
Hotspots in Los Angeles



Ticket Times



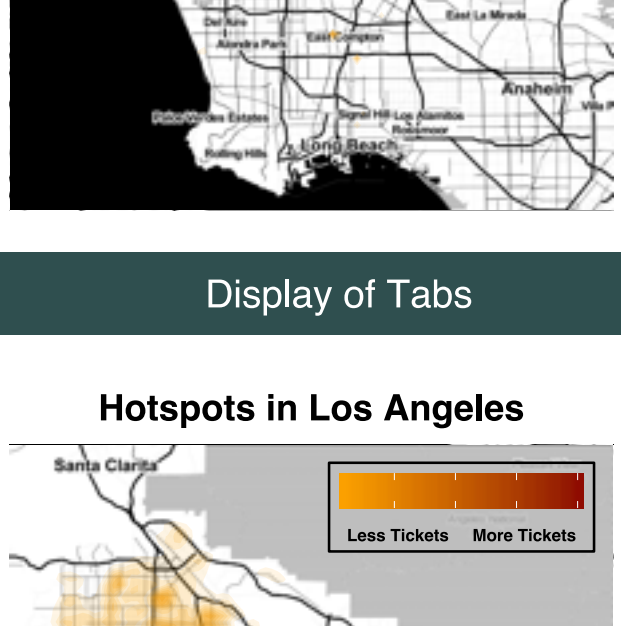
North Hollywood	59,482
Sawtelle	49,337
Boyle Heights	48,707
Westwood	48,547



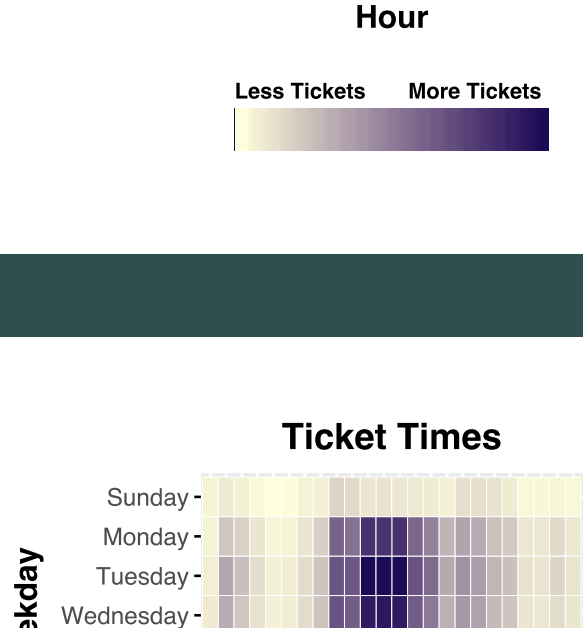
Meter Expired

Neighborhood	# of Tickets
Downtown	251,174
Hollywood	148,615
Sawtelle	113,977
Westwood	82,319
Woodland Hills	79,038
Brentwood	64,029
Van Nuys	62,627
Fairfax	62,400
Studio City	61,043
Beverly Grove	60,761

Hotspots in Los Angeles



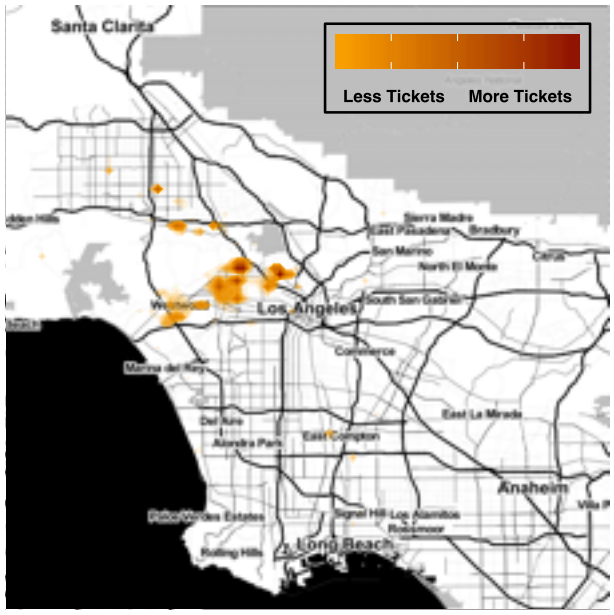
Ticket Times



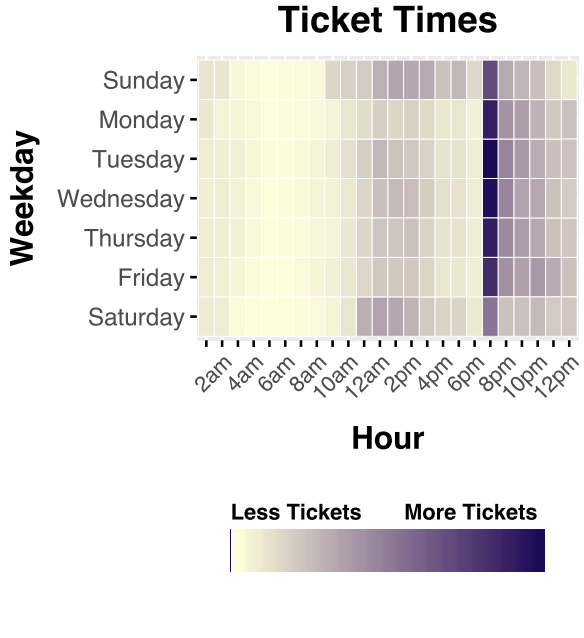
Preferential Parking

Neighborhood	# of Tickets
Hollywood	81,033
Beverly Grove	63,875
Sherman Oaks	38,177
Fairfax	37,209
Silver Lake	35,635
East Hollywood	26,448
Mid-Wilshire	25,317
Westwood	19,455
Studio City	18,878
Van Nuys	15,604

Hotspots in Los Angeles



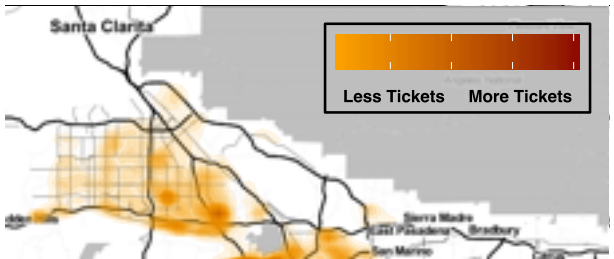
Ticket Times



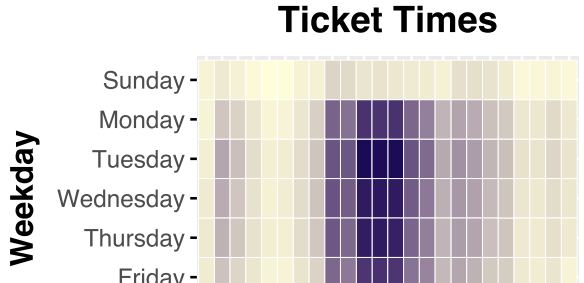
Display of Tabs

Neighborhood	# of Tickets
Downtown	33,727
Hollywood	26,713
Sawtelle	16,680
Koreatown	16,025

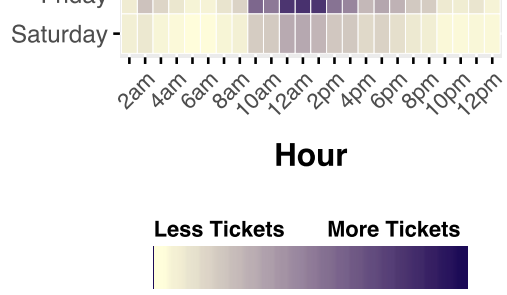
Hotspots in Los Angeles



Ticket Times



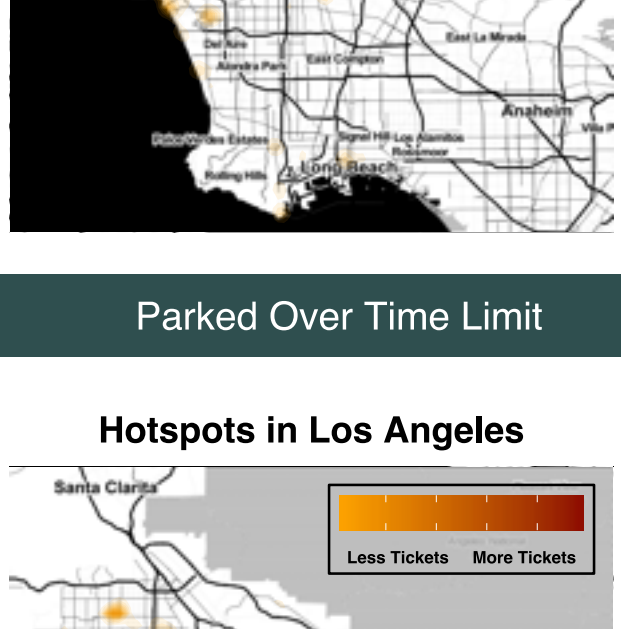
Neighborhood	# of Tickets
Venice	15,763
Westwood	13,306
North Hollywood	12,501
Westlake	12,059
East Hollywood	11,466
Los Feliz	10,783



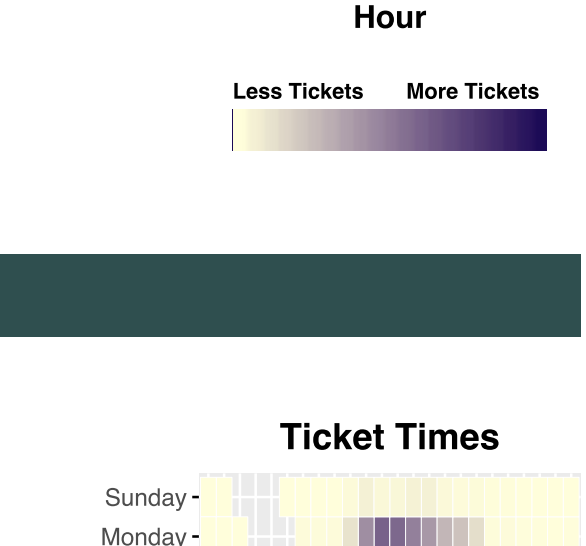
Red Zone

Neighborhood	# of Tickets
Downtown	93,853
Venice	23,083
Long Beach	22,293
Westlake	19,605
Hollywood	19,152
Boyle Heights	15,051
Koreatown	11,790
San Pedro	11,500
Manhattan Beach	10,870
Westwood	9,127

Hotspots in Los Angeles



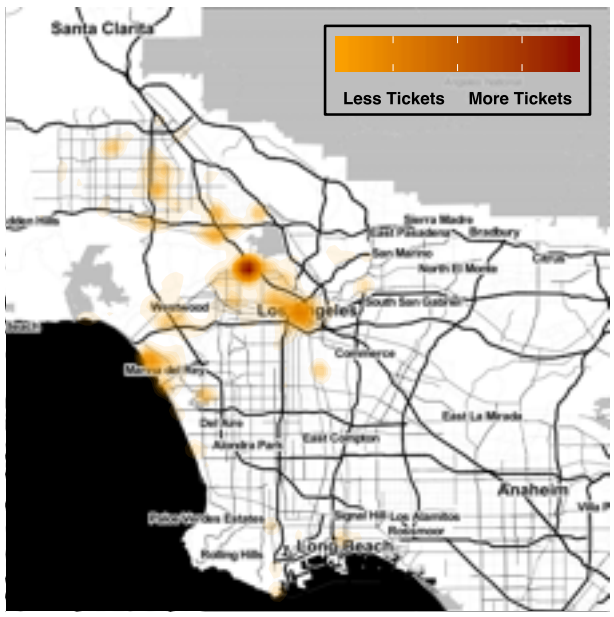
Ticket Times



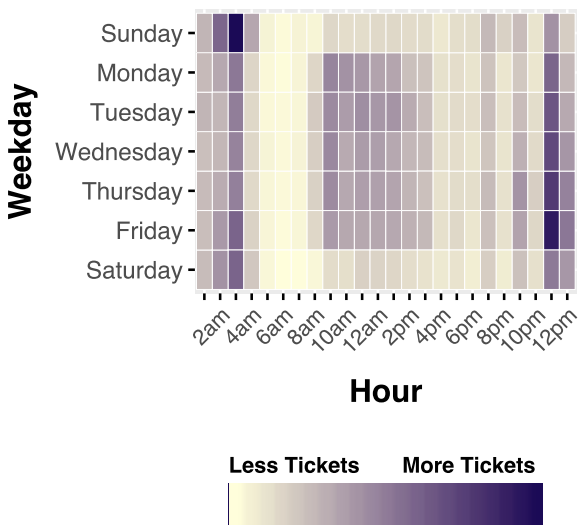
No Parking

Neighborhood	# of Tickets
Hollywood	55,194
Downtown	23,865
Venice	15,827
Van Nuys	11,208
Studio City	10,138
Westlake	8,297
North Hollywood	6,871
Koreatown	6,297
Playa del Rey	6,223
Westchester	6,083

Hotspots in Los Angeles



Ticket Times



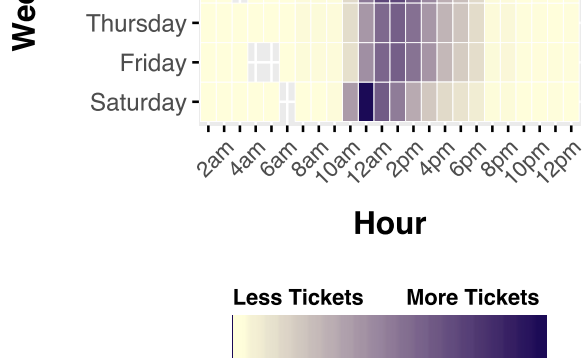
Parked Over Time Limit

Neighborhood	# of Tickets
Downtown	41,719
Westwood	26,495
Hollywood	18,529

Hotspots in Los Angeles

Ticket Times

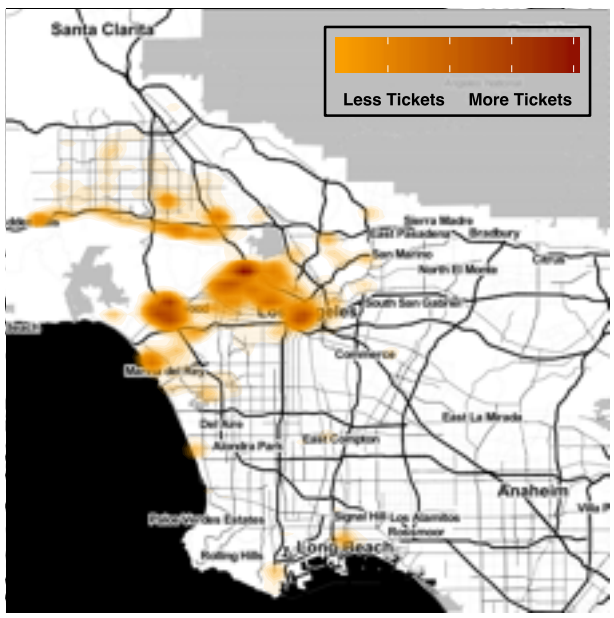
Koreatown	16,920
Westlake	14,945
Venice	11,972
Van Nuys	11,392
North Hollywood	11,339
East Hollywood	9,229
Sawtelle	8,654



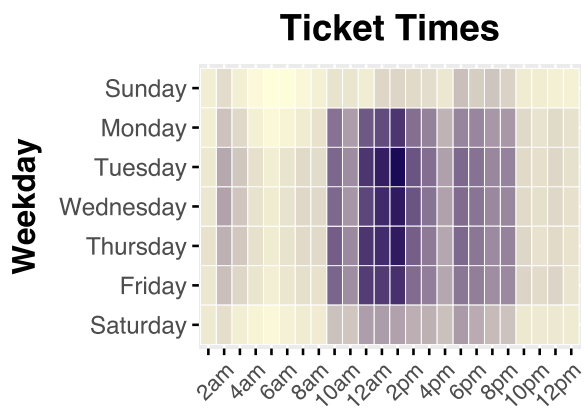
Display of Plates

Neighborhood	# of Tickets
Hollywood	19,075
Downtown	16,259
Sawtelle	13,454
Westwood	11,877
Koreatown	8,367
Beverly Grove	7,345
Sherman Oaks	7,256
Brentwood	6,891
Venice	6,860
Fairfax	6,377

Hotspots in Los Angeles



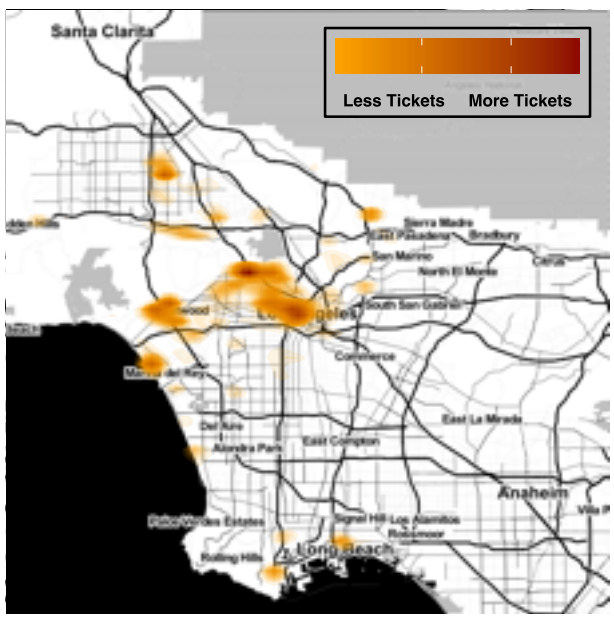
Ticket Times



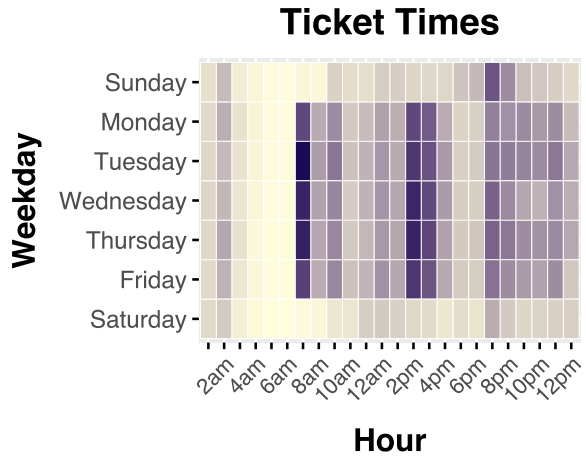
White Zone

Neighborhood	# of Tickets
Hollywood	19,227
Downtown	15,492
Westlake	13,404
Venice	9,211
Koreatown	9,210
Panorama City	8,464
East Hollywood	8,235
Westwood	7,502
Sawtelle	6,104
Brentwood	5,763

Hotspots in Los Angeles



Ticket Times

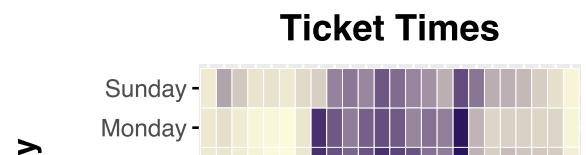


Stop / Stand Prohibited

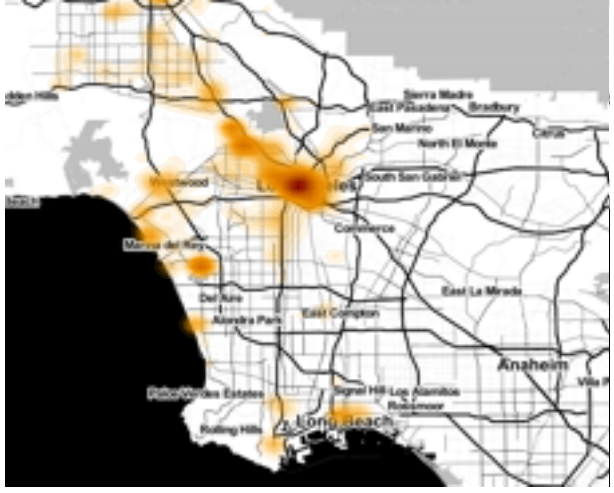
Neighborhood	# of Tickets
Downtown	18,113

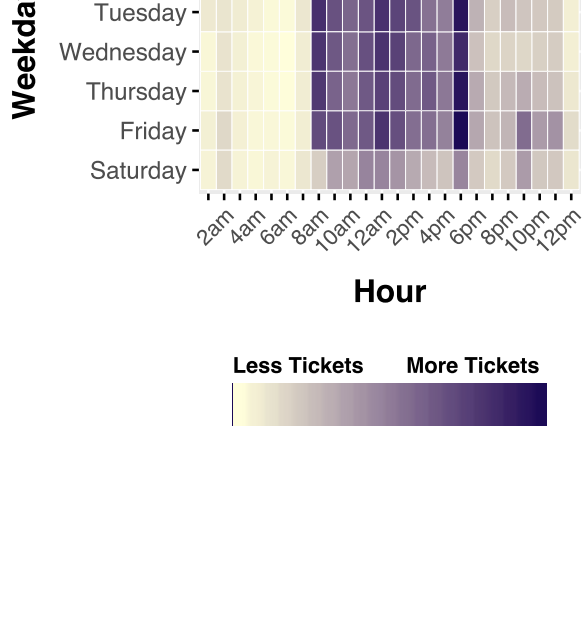
Hotspots in Los Angeles

Ticket Times



Hollywood	5,911
Westchester	4,917
Westlake	4,736
Koreatown	3,913
Long Beach	3,619
Boyle Heights	3,442
Hollywood Hills	3,185
Venice	2,656
East Hollywood	2,054





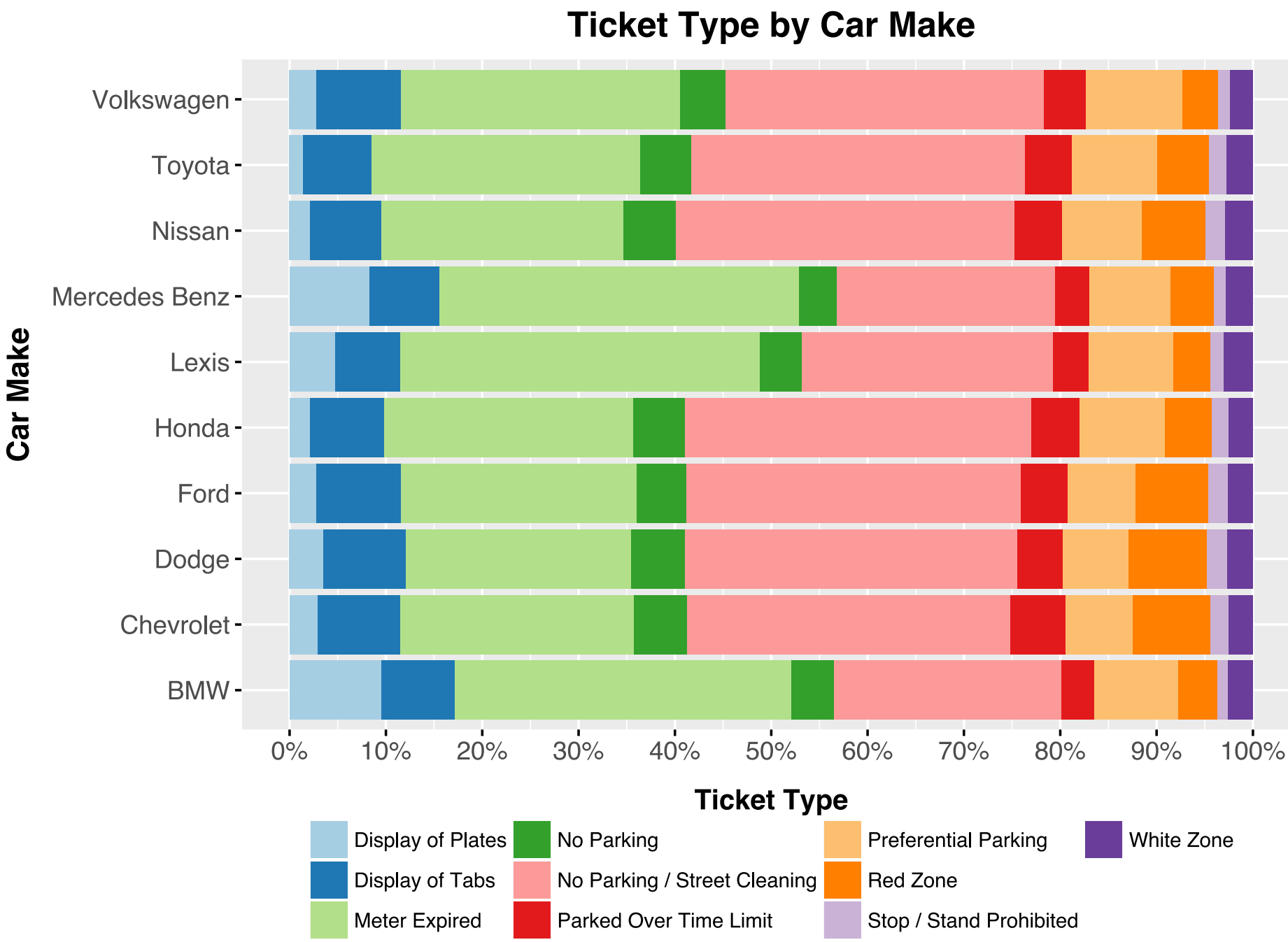
From this high up, we can see a few things that stick out.

> When you have a time and a place you have a story.

At 3am we have a surge of “No Parking” parking tickets located right outside the in Hollywood. It is possible that parking officials are waiting till right after the bars close at 2am. I guess we have to count our blessing for that spike because that means the people are either taking taxis or Ubers home and leaving their car overnight. That is money I am grateful for that is going to the city.

We can see is the spikes at 9am, 11am, 1pm for street sweeping tickets. These are the moments you have walked back into your house to grab your sweater and you come back to a windshield with a pale yellow paper, a poorly swept street, and an absent parking official. The best part about that particular view is that you don’t have to worry about the weekends. The LA Times wrote an article on this a few years ago proposing that parking officials were targeting certain communities.

One of the final data slices I wanted to look at was the type of cars that are getting tickets. The data was a bit dirty, so I had to recode it. Underneath is a full-stacked bar chart broken down by car make and violation type.



One of the interesting things about this visual is that BMW and Mercedes do not like displaying their license plate. Perhaps the residents of Los Angeles should have followed Steve Job's lead and swapped out their leased Mercedes every 6 months to avoid having to have a licence plate.

Obviously, there are many other ways to slice this data but I am glad I was at least able to scratch the surface. My analysis has not proved any scandals or found any hidden agendas but what I wanted to do is bring awareness to areas of Los Angeles that are more prone to be targeted by parking officials. This will not be the end of my analysis on this dataset, but for now I am satisfied with the visuals and interesting trends.

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    - http://www.dot.ca.gov/trafficops/census/
    - http://media.metro.net/images/monorailpart2data.pdf

- http://www.citylab.com/commute/2015/12/parking-los-angeles-maps-study/418593/
- http://www.latimes.com/local/cityhall/la-me-california-commute-20151103-story.html
- http://www.cleanstreetsla.org/cleanstat/
- http://www.nbclosangeles.com/news/local/LA-Ordered-Change-Parking-Ticket-Dispute-Process-389940601.html
- http://www.laweekly.com/news/an-app-that-fights-parking-tickets-has-arrived-in-la-but-does-it-work-5566764
- https://www.citizine.tv/article/how-to-never-get-a-parking-ticket-in-los-angeles-again
- http://www.scpr.org/news/2016/06/22/61895/la-considering-lower-parking-ticket-fines-communit/
- http://losangeles.cbslocal.com/2015/01/29/following-cbs2-investigation-city-of-la-will-refund-drivers-for-more-than-14k-erroneous-parking-tickets/
- http://losangeles.cbslocal.com/css-table/
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- http://www.laweekly.com/news/why-do-you-hate-the-la-parking-violations-bureau-so-much-maybe-because-it-lies-and-steals-your-money-2614828 –!>

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