

Property and violent crime rate change between 2009 and 2013

This analysis compares the property and violent crime rate changes in Los Angeles County by city utilizing data from the Federal Bureau of Investigation's (FBI) Uniform Crime Report (UCR). These data can be found in Table 8 (2009) (2013) [here](#).

In addition, inspiration for this report came from the 'Realignment, Incarceration, and Crime Trends in California' by Lofstrom, Magnus, and Raphael, Steven (2015). This analysis shows that property crime rate have increased after AB 109 started. That report can be found [here](#).

For this analysis, the crime rates two years before and two years after the [AB-109 Criminal justice alignment](#) (2011) started were selected to determine crime rate changes.

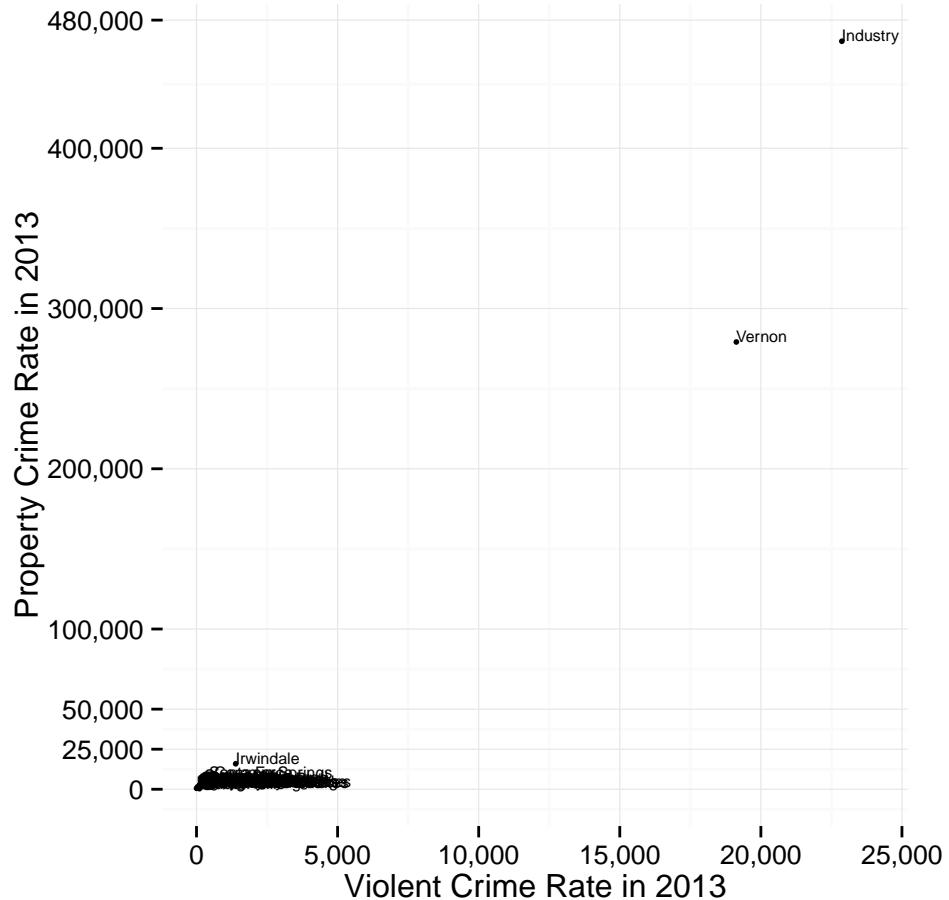


Figure 1: Property and violent crime rate in 2013 for cities in Los Angles County. Notice cities with extremely large crime rates

Violent and Property crime rates for 2009 and 2013

Why some cities have extremely high property and violent crime rates?

Some cities in the County have extremely high crime rates, see Figure 1. One reason, among others, is that during the day some cities increase their population due to commuting workers. Crime rates are calculated using city's residents as the denominator, thus cities with small number of residents, but with large number of people working during the day skew crime rates.

The crime rate formula per 100,000 residents by city is:

$$(\text{Crimes}/\text{Population}) \times 100,000$$

For example, if a city with 50,000 residents that has 10 robberies in a given year, then the robbery rate per 100,000 residents is:

$$(50/50,000) = 0.001 \times 100,000 = 100 \text{ or a rate of 100 robberies per 100,000 residents.}$$

Table 1 below shows cities in Los Angeles County with extreme changes in population.

City	Estimate Residents	Estimate Day Population	Day Population Change	Percent Change
Vernon	128	33,618	33,490	26,164.1
Industry	368	38,453	38,085	10,349.2
Irwindale	1,443	22,163	20,720	1,435.9
Commerce	12,758	54,420	41,662	326.6
El Segundo	16,534	64,995	48,461	293.1
Santa Fe Springs	16,376	61,243	44,867	274.0
Beverly Hills	33,980	76,804	42,824	126.0
Westlake Village	8,274	15,302	7,028	84.9
Culver City	38,827	62,631	23,804	61.3
Santa Monica	88,679	139,801	51,122	57.6
Lawndale	32,552	25,167	-7,385	-22.7
Hermosa Beach	19,355	14,820	-4,535	-23.4
Bellflower	75,944	57,661	-18,283	-24.1
South Pasadena	25,376	19,219	-6,157	-24.3
Cudahy	23,854	17,926	-5,928	-24.9
Maywood	27,515	20,555	-6,960	-25.3
Sierra Madre	10,854	8,066	-2,788	-25.7
Lakewood	79,859	59,240	-20,619	-25.8
Rancho Palos Verdes	41,535	30,559	-10,976	-26.4
Lomita	20,186	14,687	-5,499	-27.2
Temple City	35,222	24,939	-10,283	-29.2

Table 1: Top and bottom ten cities of day population change in Los Angeles County. Data from U.S Census Commuter Adjusted Daytime Population: 2006-2010 5-year ACS

The UCR data for this analysis came from Table 8. This data has counts of violent and property crimes. Violent crimes include: (1) Murder and nonnegligent manslaughter, (2) Rape (legacy definition), (3) Robbery, and (4) Aggravated assault. The rape definition was changed in 2013, see [here](#) for more information. For this analysis, the legacy definition was used. Property crimes include: (1) Burglary, (2) Larceny-theft, (3) Motor vehicle theft, and (4) Arson.

City Measure	2009	2013
Mean Property (County)	8,027	10,868
Mean Violent (County)	1,138	776
Median Property (County)	2,295	2,189
Median Violent (County)	373	278
Weighted Mean Property (County)	2,488	2,315
Weighted Mean Violent (County)	538	382
Median Property (State)	2,458	2,325
Median Violent (State)	318	276

Table 2: Comparison of mean, median, and weighted mean for cities in Los Angeles county for property rates in 2009 and 2013

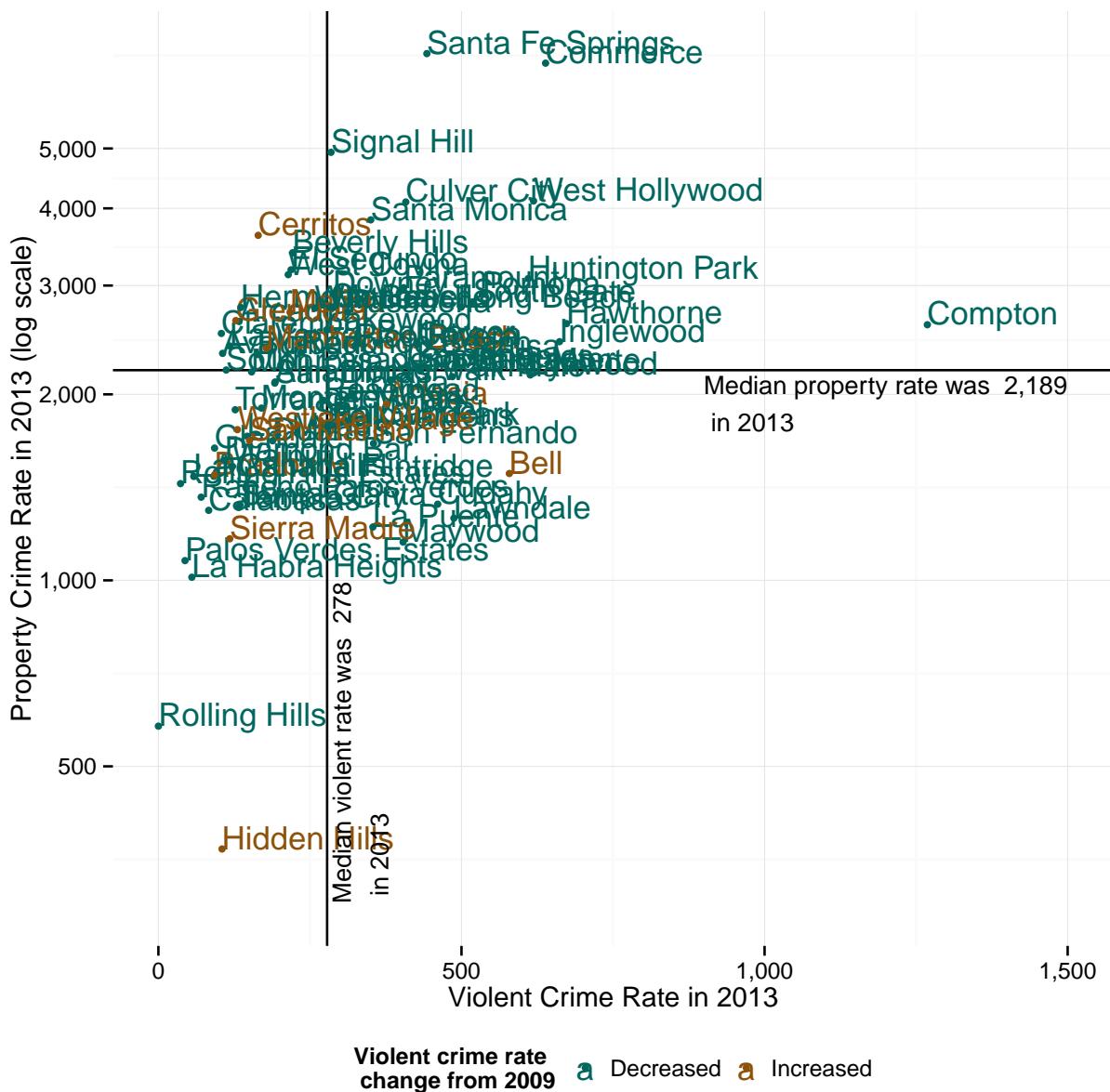


Figure 2: Quadrant graph of property and violent crimes rates in 2013 for Los Angeles County cities, after cities with extremely large rates are excluded. Crime rate medians rather than the averages were used to minimize the influence of cities with extremely high crime rates

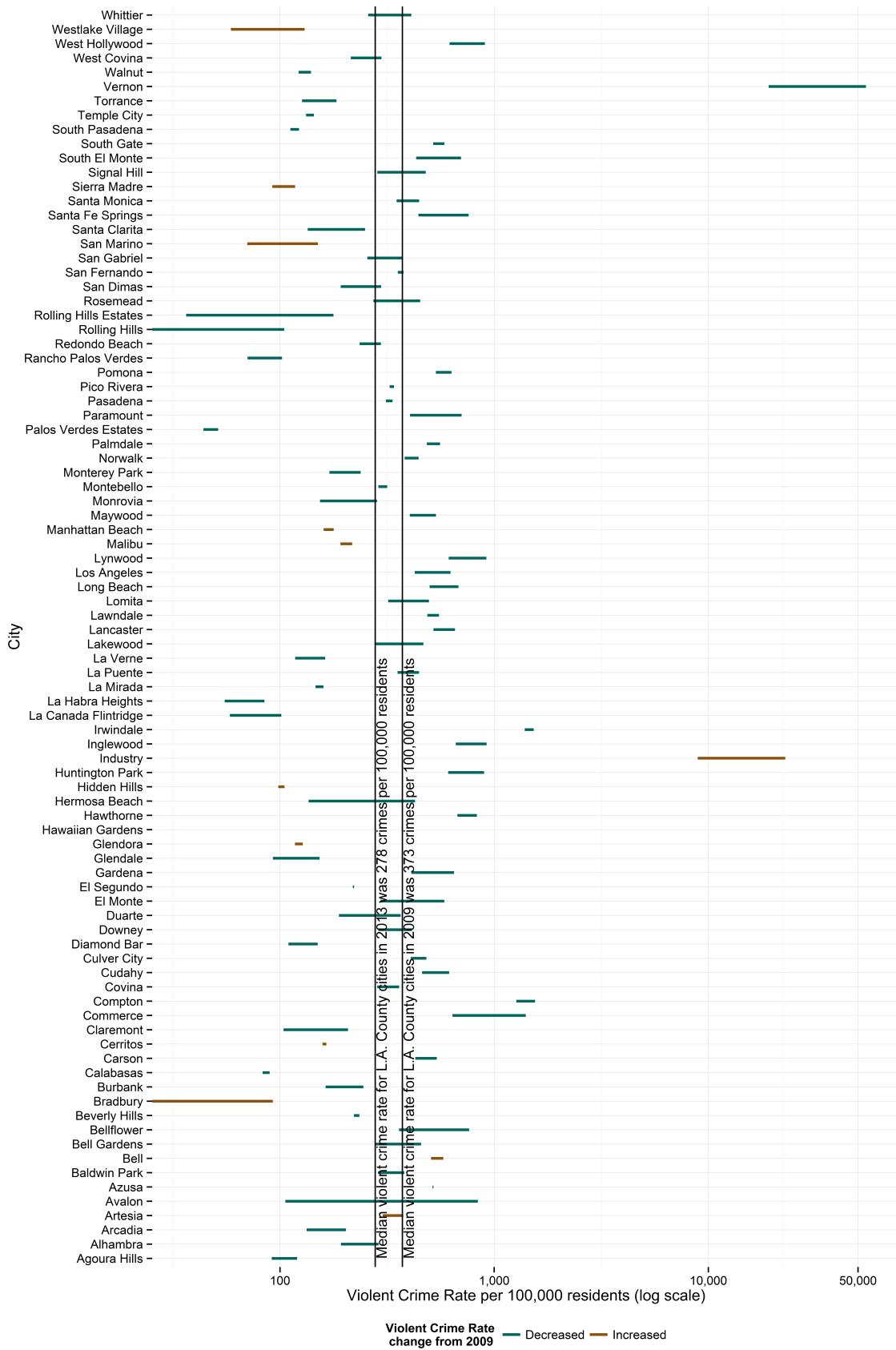


Figure 3: Median violent crime rate comparison for Los Angeles County cities

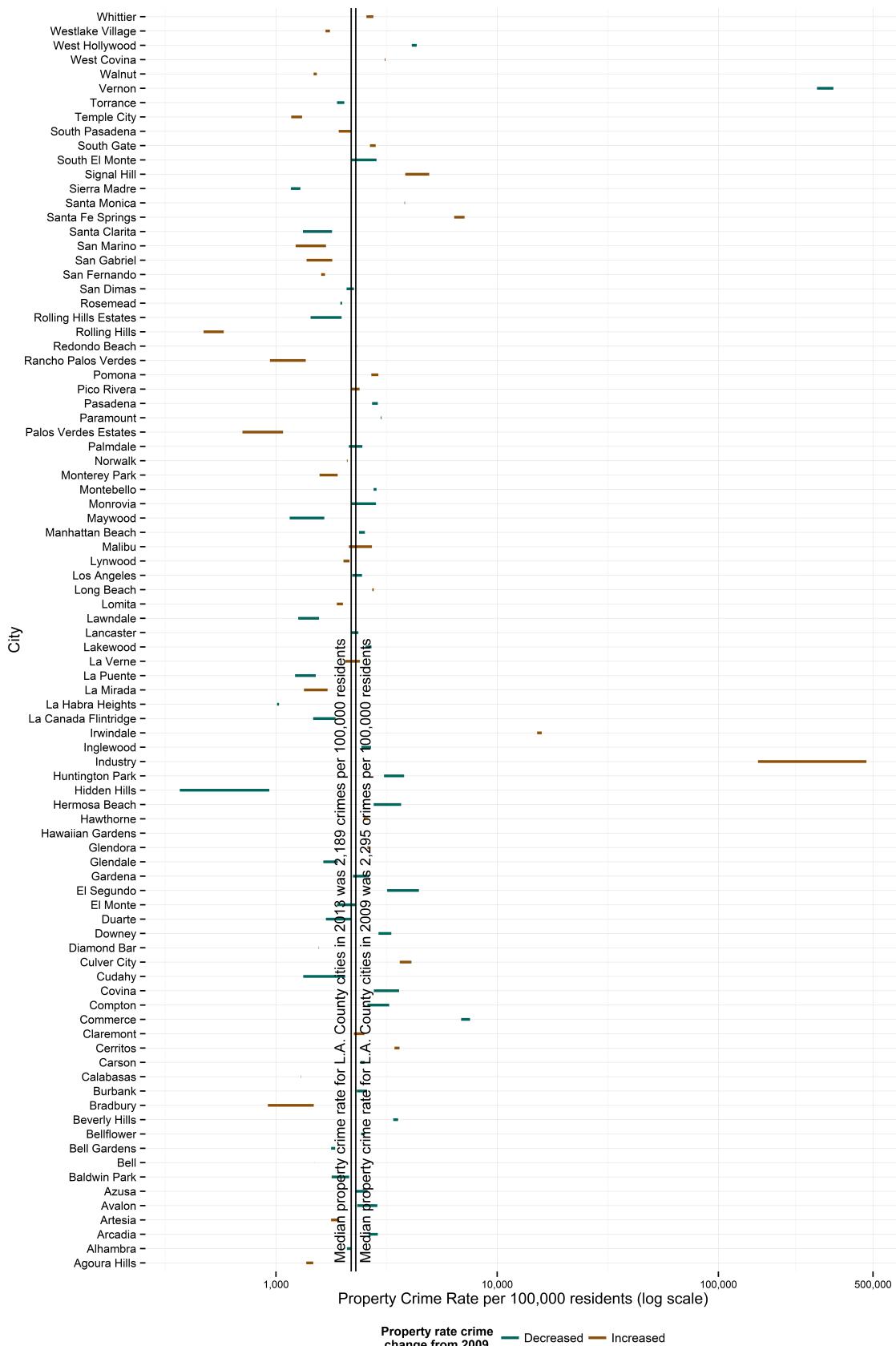


Figure 4: Median property crime rate comparison for Los Angeles County cities

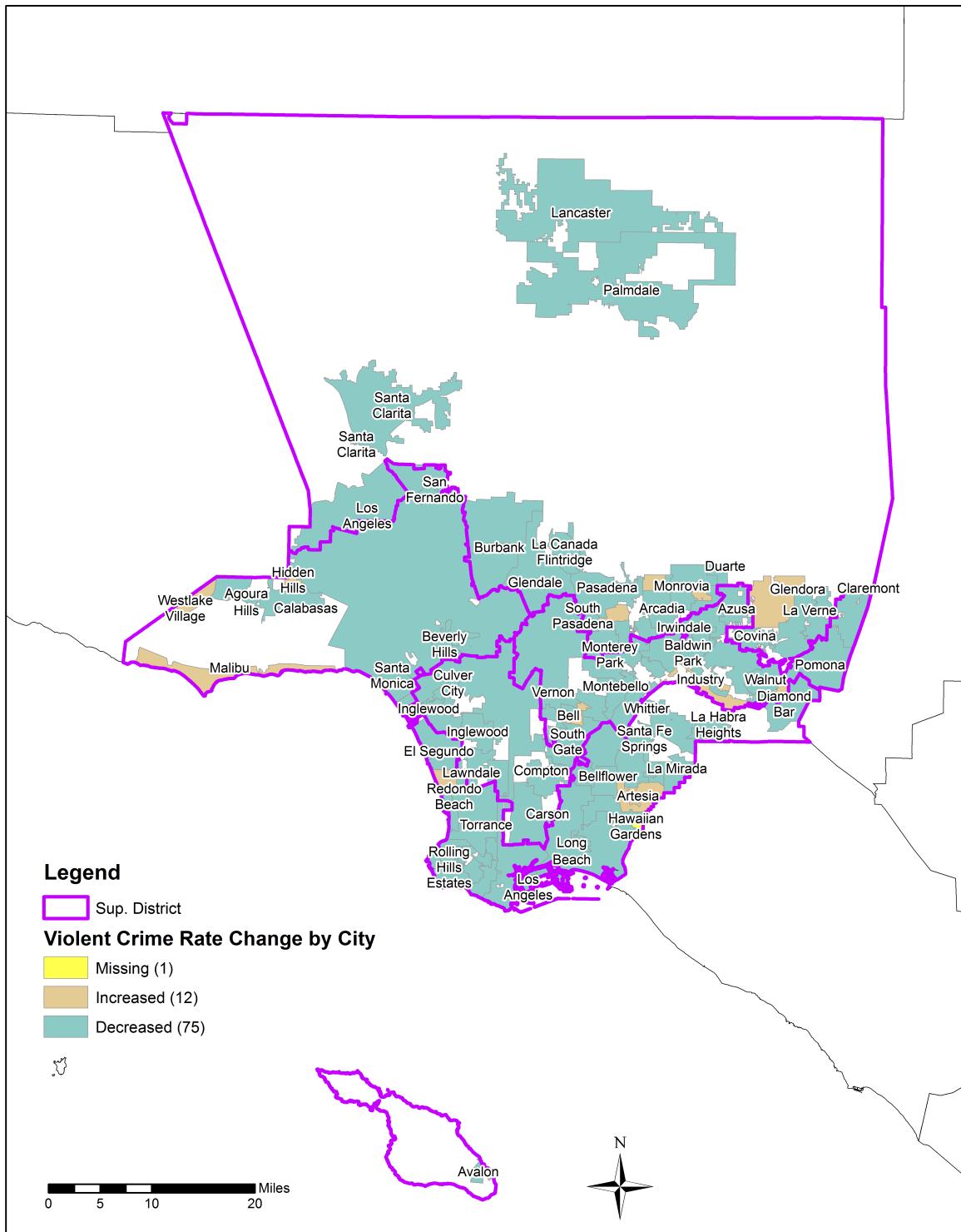


Figure 5: Los Angeles County cities violent crime rate changes between 2009 and 2013

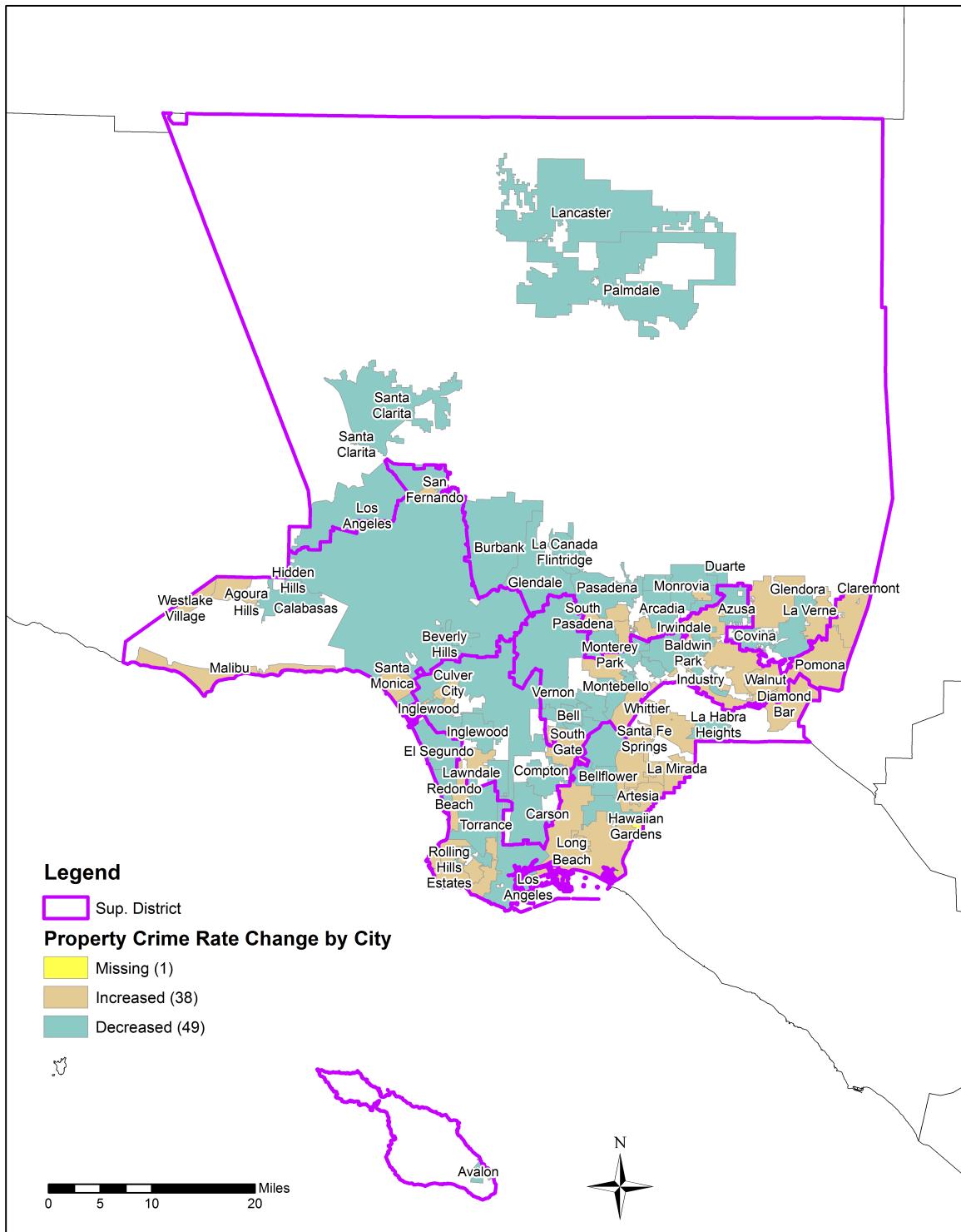


Figure 6: Los Angeles County cities property crime rate changes between 2009 and 2013

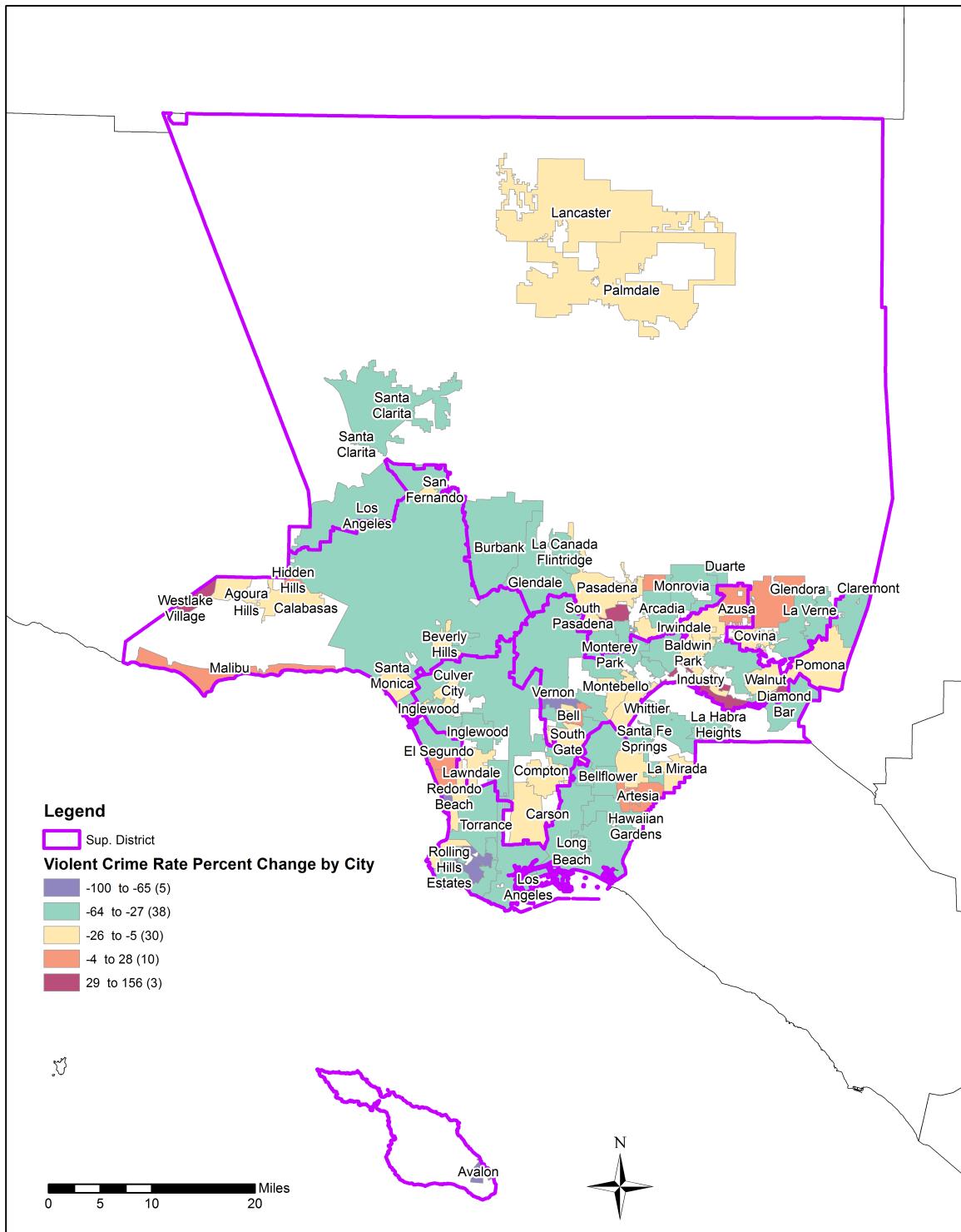


Figure 7: Los Angeles County cities violent crime rate percentage changes between 2009 and 2013

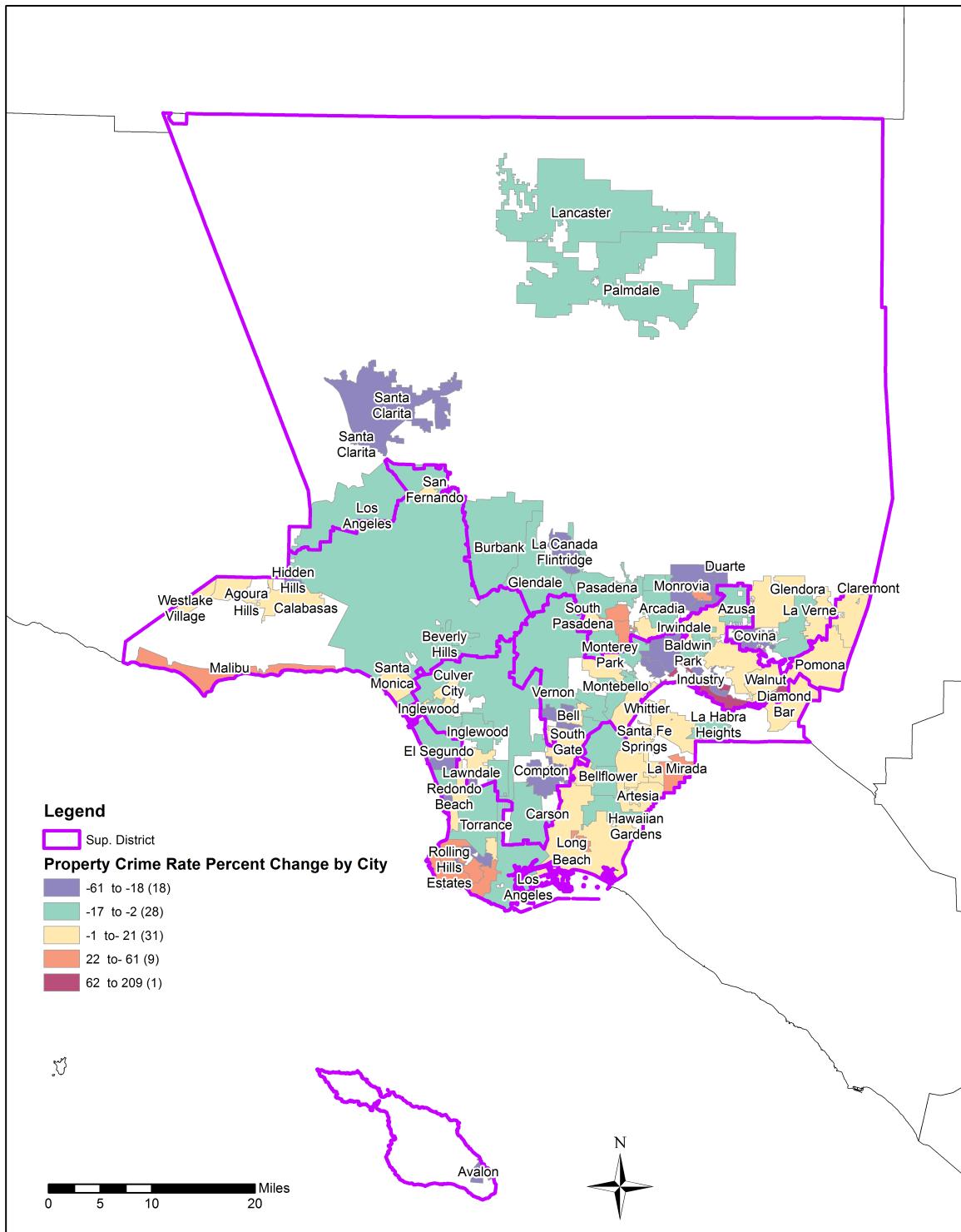


Figure 8: Los Angeles County cities property crime rate percentage changes between 2009 and 2013

Analysis of the Los Angeles County Jail Profile

For this analysis data from The Board of State and Community Corrections. Jail Survey Data (2015) available is between January 2001 and September 2014. These data can be accessed [here](#). It is important to note that Prop 47 passed in November 2014, and any effects it had in jail population counts can't be analyzed at this time.

The Jail survey data has following variables : (1) Jurisdiction, (2) Year, (3) Month, (4) (ADP totals) Unsentenced males, (5) (ADP totals) Unsentenced females, (6) (ADP totals) Sentenced males, (7) (ADP totals) Sentenced females, (8) (ADP totals) Jurisdiction, (9) (Avg number of felony inmates) Unsentenced, (10) (Avg number of felony inmates) Sentenced, (11) (Avg number of felony inmates) Total, (12) (Avg number of misdemeanor inmates) Unsentenced, (13) (Avg number of misdemeanor inmates) Sentenced, (14) (Avg number of misdemeanor inmates) Total, (15) Highest one-day population for this month occurred on:, (16) The highest count was:, (17) ADP of maximum security inmates, (18) ADP of medium security inmates, (19) ADP of minimum security inmates, (20) Mental health cases opened last day of the month, (21) New mental health cases opened during this month, (22) Inmates, last day of the month, receiving psych medication, (23) Inmates assigned to mental health beds last day of month, (24) Inmates that were seen at inmate sick call this month, (25) Physician/practitioner occurrences during this month, (26) Off-site medical appointments during this month, (27) Dental encounters during this month, (28) Inmates assigned to medical beds last day of the month, (29) Avg # of inmates not assigned to housing, (30) Avg # of your inmates in contract beds in other jurisdictions, (31) Avg # of federal inmates housed in your system on contract, (32) Avg # of state inmates housed in your system on contract, (33) Avg # of inmates from other Co. in your system on contract, (34) Avg # of inmates sent. and awaiting transport to state prison, (35) Avg # of inmates in hospital(s) outside of your jail facilities, (36) Total # of persons booked this month, (37) Total # of pretrial released due to lack of housing capacity, (38) Total # of sent. released due to lack of housing capacity, and (39) Total # of juveniles in custody this month (per 707 W&I code).

Structural change analyses were employed to determine trends on the following variables:

1. (16) The highest count was:
2. (17) ADP of maximum security inmates
3. (22) Inmates, last day of the month, receiving psych medication
4. (23) Inmates assigned to mental health beds last day of month
5. (36) Total # of persons booked this month
6. (38) Total # of sent. released due to lack of housing capacity

Based on the structural change analysis for the variable 'Highest counts by month', before AB 109 began and a few months later there was a downward trend. This trend began on December 2009 (95% Confidence Interval (C.I.) October 2009, January 2010). On March 2012 (95% C.I. February, May 2012) a new trend began with an upward slope see Figure 9.

For the variable variable 'ADP (average daily population) of maximum security inmates', there are two trends, the last trend began in October 2003. This trend has a downward slope that AB109 seems to have no effect on it.

For the variable variable 'Inmates, last day of the month, receiving psych medication', there are three trends. The current trend began in November 2011 (95% C.I. October 2011, April 2012). This trend has an increasing slope. The trend before that was more or less flat and began in September 2006 (95% C.I. April, October 2006).

For the variable 'Inmates assigned to mental health beds last day of month', the current trend began in May 2012 (95% C.I. March, June 2012). This trend has a downward slope. The prior trend began in March 2008 (95% C.I. January, May 2008). This trend was, more or less, flat.

For variable ‘Persons booked this month’, the current trend began on September 2010 (C.I. January 2010, January 2011). This trend has a downward slope. The trend before this began in October 2008 (95% C.I. August 2008, January 2009). This trend has a similar slope but with higher monthly counts.

For variable ‘Sentence released due to lack of housing capacity counts’ the current trend began in December 2010 (95% C.I. November, February 2011). This trend has a downward slope. The trend before that began in November 2008 (95% C.I. November 2007, May 2009). This trend has a downward slope but with higher counts.

In conclusion and only for the variables analyzed, the number of highest count by month and inmates receiving psych medication increased after AB 109 started. However the other variables analyzed had decreasing trends or the trends did not changed after AB 109 began.

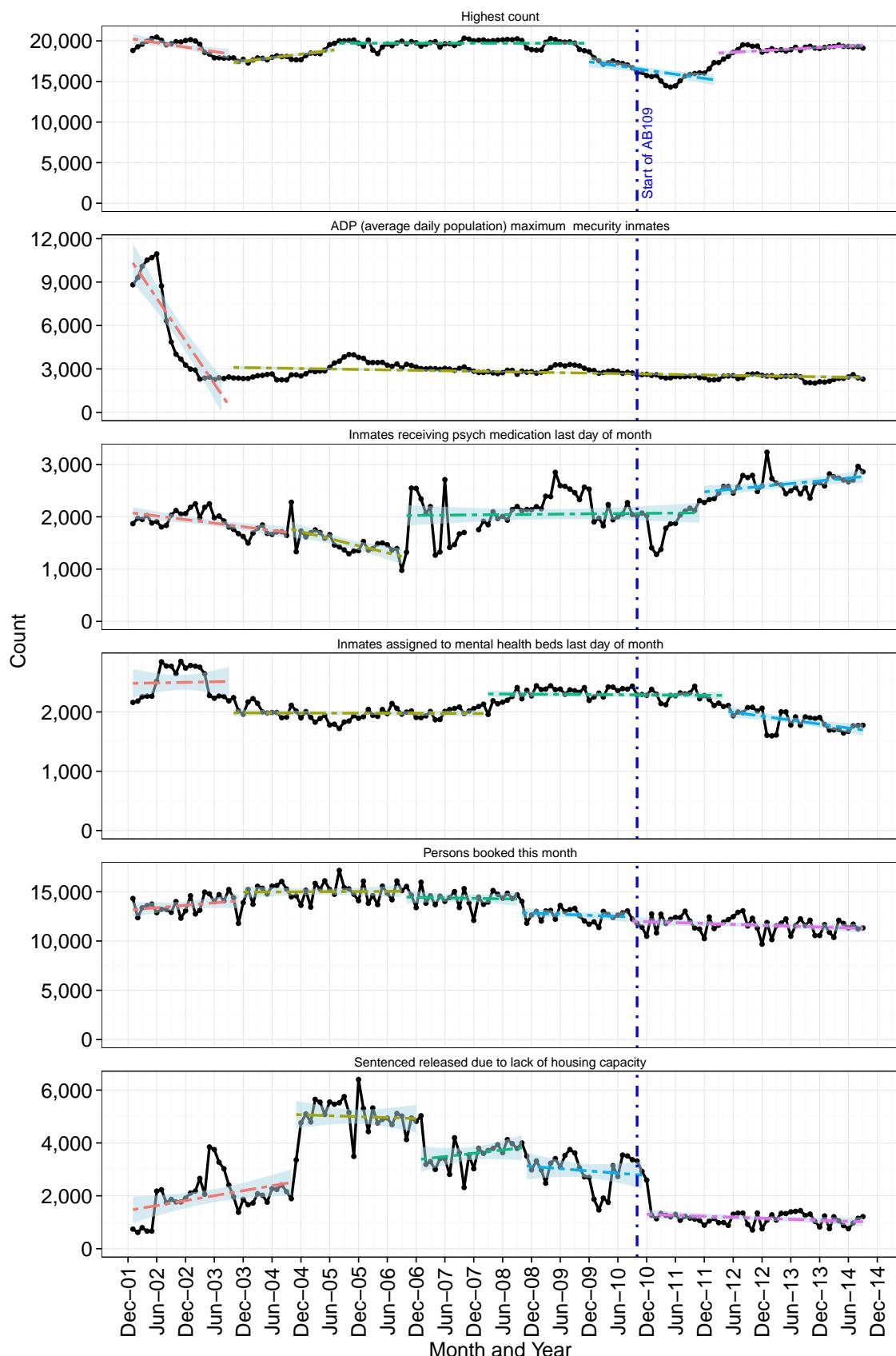


Figure 9: Selected Jail Survey variables for Los Angeles County from January 2001 to December 2014

The analysis was completed on Tue Jul 07 9:23:07 AM 2015 in 59 seconds.

References

- Lofstrom, Magnus, and Raphael, Steven. 2015. "Realignment, Incarceration, and Crime Trends in California." *Realignment, Incarceration, and Crime Trends in California*, May. Public Policy Institute of California. http://www.ppic.org/main/publication_quick.asp?i=1151.
2009. "Table 8." *Uniform Crime Reporting (UCR) Program*. Federal Bureau of Investigation. <https://www.fbi.gov/about-us/cjis/ucr>.
- 2011. "Assembly Bill No. 109." *Assembly Bill No. 109*, April. California Secretary of State. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120AB109.
- 2015. "Jail Profile Survey." *Jail Profile Survey*, July. Board of State and Community Corrections. http://www.bscc.ca.gov/s_fsojailprofilesurvey.php.