

Police Bias in the Enforcement of Drug Crimes: Evidence from Low Priority Laws

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Abstract

We consider the impact of a low priority initiative in some jurisdictions within Los Angeles County on police behavior. Many states and jurisdictions have adopted low priority initiatives, which instructed police officers to make the enforcement of low level marijuana possession offenses their “lowest priority.” Using detailed data from the Los Angeles County Sheriff’s Department and a difference-in-differences strategy, we show that the mandate resulted in a lower arrest rate for misdemeanor marijuana possession in areas where the mandate applied. However, the lower relative arrest rate is driven by a large spike in the arrest rate in areas not affected by the mandate rather than by a reduction in actual arrests. The mandate had no effect on felony marijuana arrests, as these crimes were not affected by the policy change. When we look across race, we find that police did not enforce the law differentially across racial groups. However, we do find that a larger fraction of misdemeanor marijuana arrests pertain to nonwhite in the mandated areas overall and that the misdemeanor marijuana arrest rate declined for nonwhites across all reporting districts after the initiative passed.

I. Introduction

Since the 1990s, there have been ongoing drug crime reforms by state and local jurisdictions throughout the U.S. These reforms have resulted in considerable changes in law enforcement behavior, resulting in a 69 percent increase in drug law violations over the time period 1990-20007.¹ However, while initially legislation created more stringent drug policy, in recent years we have seen states begin to relax these laws, leading to decriminalization of marijuana in several states. Changes in drug legislation and enforcement efforts has spawned considerable research examining the effect of (drug) law changes on various criminal outcomes.²

An important and unavoidable aspect of the discussion of changes to drug crimes is the impact of these changes on the racial distribution of charges. As Alexander (2011) points out, “mass incarceration operates as a tightly networked system of laws, policies, customs and institutions that operate collectively to ensure the subordinate status of a group defined largely by race.” This point is underscored in high-poverty neighborhoods, where “fully four out of five residents are Black or Hispanic.” (Ludwig et al., 2001). Therefore, the disproportionate application of law toward specific races warrants further attention, whether it is the relaxation or increased stringency of the law.³

Also important to this literature is not just how the law changes affect the local community, but how these law changes affect police behavior. For instance, when law

¹ <http://www.bjs.gov/content/dcf/tables/arrtot.cfm>

² See Rasmussen et al. (1993), Benson et al. (1994), Brumm and Cloninger (1994), Tonry (1994), Blumenson and Nilsen (1998), Mast et al. (2000), Dobkin and Nicosia (2009), Calkins et al. (2005), Miron (2003) for a non-exhaustive list of research in this area.

³ Racial biases in searches and seizures has received significant attention in the literature. A non-exhaustive list of this research includes Borooh (2001), Eeckhout, Persico, and Todd (2010), Persico (2009), Persico and Todd (2008), Persico and Todd (2006), Ridgeway and MacDonald (2009), MacDonald et al. (2007), Grogger and Ridgeway (2006), Horrace and Rohlin (2015).

changes occur, is there differential enforcement of police agencies across different types of crimes, areas within their jurisdiction, or race? There is a growing literature on how policy changes affect police behavior. ~~For example, s~~Several papers have looked at how changing the incentives of police through the War on Drugs affected how police allocated their time, and the impact of this reallocation of time on other types of crime (Benson & Rasmussen, 1991; Benson et al., 1992; Benson, et al., 1994; Benson et al., 1995; Benson et al., (1998); Sollars et al., (1994); Ross and Walker, 2015). See DeAngelo and Owens (2015) for an examination of the response of law enforcement to legal changes by seniority.

In this paper, we examine the effect of adoption of low priority laws on the arrest behavior of police officers in the Los Angeles Sheriff's Department (LASD). Low priority initiatives were local mandates that informed local police officers that the enforcement of minor marijuana possession offenses should be made their lowest priority.⁴ Using data on arrests made by the LASD, we have a unique opportunity to study various mechanisms that may be in play regarding how these policies affected police behavior. First, the LASD office ~~have~~has jurisdiction throughout the county, covering multiple municipalities. In LA County, only two jurisdictions enacted low priority laws, West Hollywood and Santa Monica (but Santa Monica has its own police force). Therefore, while the LASD are responsible for patrolling the overwhelming majority of Los Angeles County, only one municipality passed one of these initiatives.

⁴ Ross and Walker (2015) found that police officers in the state of California followed the mandate and arrested fewer individuals, but that there was no measurable deterrent effect of the initiative on other types of crimes.

This allows us to see if the policy change caused officers to adjust their behavior in general, or just with respect to the relevant policy affected.

Furthermore, our data includes information on the race of the individual arrested. This allows us to see another dimension along which police officers could have changed their behavior with regards to targeting a specific race. Specifically, we examine whether the relaxation of misdemeanor drug crime laws has a symmetric impact across races, or if a specific race (or group of races) are disproportionately impacted by these legal changes.

We rely on a difference-in-differences estimation strategy. We include reporting area fixed effects to control for unobservable heterogeneity of the locality, year-by-month fixed effects to control for period specific common shocks across units, as well as reporting area-specific linear and quadratic trends. We first estimate if the adoption of a low priority law affected the arrest behavior of local police officers. We find that adoption caused a reduction in arrests for misdemeanor marijuana offenses, but not felony offenses, [consistent with the findings of Ross and Walker \(2015\)](#). This suggests that officers were heeding the mandate when adjusting their arrest behavior.

Then, we consider if there are other dimensions along which police adjusted their behavior. First, we find that police were less likely to arrest people in the entire covering jurisdiction, suggesting that they did not differentially enforce this law across areas but just applied it everywhere. Second, we do not find evidence of differential enforcement across the races, suggesting that there was not a change in terms of any racial biases that may or may not be present among police officers. The estimates do suggest, however, that a larger fraction of misdemeanor marijuana arrests in areas affected by the low priority mandate were [nonwhite individuals](#) than in areas without the mandate, and that

the misdemeanor marijuana arrest rate declined for nNonwhites across all reporting districts after the initiative passed.

II. Low Priority Laws

Low priority initiatives mandate that minor marijuana possession offenses be the lowest enforcement priority for local law enforcement agencies. There are a few key components to low priority laws. First, the law only affects minor marijuana possession offenses. Felony drug crimes, including felony-level marijuana possession and distribution offenses, were not affected by the policy change. Second, the law only affected offenses where marijuana was intended for adult personal use, which comprise approximately 477 offenses per month in our data. Possession or selling of marijuana to minors is not affected by low priority initiatives. Finally, the mandate was only intended to affect the private use of marijuana, so any offenses committed on public property were not affected.⁵

Within Los Angeles County there are multiple police jurisdictions - local police agency, city police agency, county police agency, or state agency – that oversee the enforcement of laws. Our data makes use of arrests made in Los Angeles County by the LASD, which accounts for approximately 79 percent of geographic coverage in Los Angeles County. In Los Angeles County, Santa Monica and West Hollywood were the only municipalities that adopted low priority initiatives in our sample period. Santa Monica has its own police agency, therefore any arrests or crimes reported in this area will not appear in our data set. However, West Hollywood contracts with LASD for

⁵ Most of initiatives also have some language regarding who was responsible for making sure the ordinance was enforced by the local police agency.

police services and changes in policing behavior in this area due to the policy change will be present in our data. The city of West Hollywood has 22 reporting districts that are affected by the low priority mandate among a total of 943 reporting districts in LA county that appear in the LASD data.

This contractual relationship between the city of West Hollywood and the LASD for the provision of police services presents challenges to the implementation of the low priority law in West Hollywood for several reasons. First, for the LASD, complying with the West Hollywood resolution would mean changing their arrest behavior in one specific geographic area within their overall jurisdiction. Therefore, we aim to empirically test whether or not the LASD changed their behavior at all, or if the policy change in West Hollywood caused them to alter their behavior in all areas within their jurisdiction.

Second, the West Hollywood city council has no authority to compel the LASD to comply with the low priority mandate. The low priority law passed by the City Council is a resolution, which unlike an ordinance, is not a law and is therefore not legally binding. The city council member who proposed the resolution acknowledged this, stating that the resolution should “send a message to law enforcement that they should focus on more serious crimes.”⁶ Second, a county sheriff is an elected official who generally establishes his or her own priorities. County commissioners often control police department budgeting decisions and therefore may have some indirect influence on the sheriff’s operations, but even they may lack the authority to determine the priorities of police. As

⁶ From San Diego Tribune: <http://www.sandiegouniontribune.com/news/2006/jun/20/west-hollywood-to-consider-easing-enforcement-of/>

stated by one city council member, it is unusual for a contracting city to specify which laws for police to enforce and which to ignore.⁷

Nonetheless, the West Hollywood resolution includes a provision that attempts to ensure the police are following the decree; it directs the Public Safety Commission of the City of West Hollywood “to conduct annual reviews of Sheriff Department statistics related to enforcement activities related to marijuana offenses,” and to present those findings to the City Council periodically.⁸ In addition, if the LASD refuses to heed to mandate, the city of West Hollywood could discontinue its contract for law enforcement with the LASD and use another police department, or create their own. This possibility should serve to incentivize the LASD to comply with the resolution, especially if their objective is to maximize their operating budget.

Another question that frequently surrounds the implementation of low priority mandates is whether or not police departments are already deprioritizing low level marijuana offenses. If police are already considering enforcement of marijuana misdemeanors as a low priority, then we would see no effect of the law on arresting behavior of police. This may have been the case in West Hollywood; as a sheriff deputy who works in West Hollywood stated that officers “use their own judgment in small-time pot cases.”⁹

A final challenge to the implementation of the low priority initiative in West Hollywood is that, like many other low priority initiatives, the West Hollywood resolution does not specify limits to the amounts of marijuana that should be exempted. It

⁷ From LA Times: <http://articles.latimes.com/2006/jun/20/local/me-pot20>

⁸ The resolution can be found at: <http://www.weho.org/Home/ShowDocument?id=826>

⁹ From LA Times: <http://articles.latimes.com/2006/jun/20/local/me-pot20>

merely states that “small amounts” should be ignored. This ambiguity may diminish the effectiveness of the resolution because of the difficulty it creates for police in implementing, and it may also allow police to differentially enforce the low priority resolution, particularly across identifying features (e.g. race). Our arrest data separately identifies misdemeanor arrests for possession of less than one ounce of marijuana and arrests for felony possession of more than one ounce. We will estimate the effect of the low priority mandate separately for these two types of marijuana arrests.

III. Data

Our primary data consist of the universe of arrest records from the LASD between 2000 and 2007, which we obtained through a research agreement.¹⁰ Each arrest record identifies the type of offense, the geographic location of the arrest (reporting district) and a time stamp for when the arrest took place. Arrests appear in 943 reporting districts in Los Angeles County of which 22 reporting districts lie within the city of West Hollywood. The reporting districts within West Hollywood become our treated units. The low priority resolution in West Hollywood was passed in June 2006 and was to take effect immediately. Therefore, our treatment period pertains to any arrest made beginning July 1, 2006.

We are interested in identifying changes in the likelihood of a marijuana arrest before and after the low priority mandate took effect. The arrest records differentially identify minor marijuana possession (less than 1 ounce) from felony marijuana possession (greater than 1 ounce). We will treat these two types of marijuana arrest

¹⁰ The LASD has decided not to release any extracts for more recent years.

separately as different outcomes under the premise that the low priority mandate should have been enforced on minor possession of marijuana but not felony possession.

However, since we have data on other types of offenses, we can also test whether the low priority initiative resulted in a reallocation of police resources that increased the likelihood of arrest for more serious crimes. The data also identify the race of the perpetrator which allows us to estimate the effect of the low priority initiative separately by race.

Summary statistics

Table 1 presents the summary statistics of the variables used in our analysis for the entire 2000-2007 time period. Panel A shows the means and standard deviations of the variables for the full sample arrest records as well as separately for reporting districts affected by the low priority mandate and reporting districts not affected by the low priority mandate. Each observation in the data is an individual arrest record, of which there are more than 2.5 million. There are 52,672 total arrests in low priority reporting districts and 2,491,622 arrests in reporting districts not affected by the low priority mandate. The variable `nNonwhite` is a binary indicator (=1) if the arrested individual was identified as a race other than `wWhite`. The race identifier was missing for a large number of arrests. Of the 725,925 arrest records that identified the race of the individual arrested, 78.9% were `nNonwhite`. However, in West Hollywood where the reporting districts were subjected to the low priority initiative, less than half of arrests (46.9%) pertained to non-white individuals.

The variable “Low Priority Law” is an indicator (=1) for reporting districts affected by the mandate. The first column in Panel A shows that 2.1% of all arrests came from low priority reporting districts. The variables “Misdemeanor Marijuana” and “Felony Marijuana” are also binary indicators for whether the arrest was for misdemeanor marijuana possession or felony marijuana possession, respectively. Of all arrests in the data, 1.8% were for misdemeanor marijuana possession and 0.3% were for felony marijuana possession. The fraction of arrests for misdemeanor marijuana possession was twice as high in reporting districts with no low priority initiative and the fraction of felony marijuana arrests were three times as high in reporting districts with no low priority initiative.

The remaining variables in Panel A of Table 1 are also binary indicators for other types of offenses. The fraction of arrests for homicide, rape, and sex offenses is very small across all reporting districts. With the exceptions of grand theft and grand theft auto, the fraction of arrests for the other types of offenses is similar in reporting districts with and without the low priority initiative.

One of our objectives is to test whether the LASD implemented the low priority initiative differentially across racial groups. Panel B shows the fraction of misdemeanor and felony marijuana arrest separately by wWhite and nNonwhite individuals. Across all reporting districts, the fraction of arrests for misdemeanor marijuana possession is about 5% for both wWhite and nNonwhite individuals. The fraction of arrests for felony marijuana possession is 0.6% and 0.8% for wWhite and nNonwhite individuals, respectively.

Unconditional Differences-in-Differences

Table 2 shows the unconditional average marijuana arrest rate in low priority reporting districts and reporting districts without a low priority mandate, both before and after the mandate had passed. Panel A shows the difference-in-differences outcomes for misdemeanor marijuana arrests and Panel B shows the outcomes for felony marijuana arrests.

The top portion of each panel displays the average fraction of arrests, with and standard deviation in parentheses, for each group both before and after the mandate took effect. Directly below is reported the average difference for each group pre- and post-treatment along with standard errors (in brackets) for the t-test that the difference is equal to zero. The difference-in-difference estimate is also presented with standard errors (in brackets) that the estimate is zero.

In Panel A, the fraction of misdemeanor marijuana arrests is higher after the mandate is passed in both low priority and non-low priority reporting districts, but the increase is only statistically different from zero in reporting districts that were not subjected to the low priority law. The difference-in-difference estimate is -0.009 and is statistically significant at the 1% level. While the estimate is small in size, the baseline fraction of misdemeanor marijuana arrests for low priority districts from column 2 of Table 1 is only 0.009. This suggests that the likelihood of arrest for misdemeanor marijuana possession was significantly reduced.

Panel B of Table 2 also shows that the rate of felony marijuana arrests increased in all reporting districts after the mandate was passed, but as with misdemeanor marijuana possession, the increased arrest rate is only statistically different from zero in

non-low priority reporting districts. Here, the unconditional difference-in-difference estimator is not statistically different from zero.

Table 2 suggests that there may be underlying differences in trends regarding the likelihood of arrest for marijuana possession. In order to visually inspect the trends in marijuana arrest, we aggregated the “Misdemeanor Marijuana” binary variable to monthly observations pertaining to reporting districts that were subjected to the low priority initiative and reporting districts that were not. This creates two time series where each observation reflects the fraction of all arrests that were for misdemeanor marijuana possession in a particular month. These series are plotted over the sample period in Figure 1 and Figure 2.

Figure 1 shows the series for reporting districts subjected to the low priority initiative and Figure 2 displays the series for reporting districts that were not subjected to the low priority initiative. In both figures, the dashed line identifies the average misdemeanor marijuana arrest rate, the solid lines are 95% confidence bands, and the vertical line identifies the month in which the low priority initiative took effect. The difference in the two series is striking. While there is variation in the arrest rate over time in both figures, there is a strong upward trend following the low priority initiative in Figure 2 (non-low priority reporting districts) and only a small upward trend in Figure 1 (low priority districts) following the initiative, and perhaps no trend at all.

These figures visually confirm [the unconditional differences in differences data from Table 2](#) that there was a strong increase in misdemeanor marijuana arrests following the law in reporting districts that were not subjected to the low priority initiative. They also foreshadow our main results from the regression analysis in that the reduction in the

likelihood of misdemeanor marijuana arrest is not due to fewer arrests [in adopting jurisdictions](#), but to a slower rate of growth in the arrest rate in comparison to other, [non-adopter](#) reporting districts.

IV. Empirical Specification

Our identification strategy relies on a standard differences-in-differences approach that accounts for a large amount of unobserved heterogeneity in a panel data setting. To estimate the effect of the low priority initiative on arrests, our most saturated and conservative model has the following specification:

$$Y_{ait} = \alpha + \beta LPL_{ait} + \gamma Post_{ait} + \theta LPL_{ait} * Post_{ait} + \mu_i + \delta_t + \tau \eta_i + \tau^2 \eta_i + \varepsilon_{ait} \quad (1)$$

where $Y_{ait} \in \{0,1\}$ is an indicator for the type of arrest made (e.g., misdemeanor marijuana arrest, felony marijuana arrest, etc.) for arrest record a in reporting district i and period t . The data for the outcome variable is comprised of the entire population of arrest records made by the LASD for all types of crimes. Therefore, the model should be interpreted as predicting the likelihood of a particular type of arrest relative to all possible arrests.¹¹

We control for time invariant unobserved heterogeneity specific to each reporting district with reporting district fixed effects, μ_i . The time period indexed by t is a year-month combination for which there are 96 months between 2000 and 2007. Year-month

¹¹ An alternative specification where the dependent variable is specified as an arrest rate by calculating the number of arrests per population in a reporting district is not possible because population data by reporting district is not available. It is also not possible to calculate a clearance rate (arrests/number of reported crimes) because data on reported criminal possession of marijuana does not exist.

fixed effects denoted by δ_t capture period-specific shocks that are common to all reporting districts. Reporting district-specific linear and quadratic time trends are denoted as $\tau\eta_i$ and $\tau^2\eta_i$, respectively. The [standard](#) errors, ε_{ait} , are clustered by reporting district. $LPL_{ait} \in \{0,1\}$ is an indicator that identifies whether a reporting district is subject to the low priority law and $Post_{ait} \in \{0,1\}$ is an indicator that identifies the post-treatment period. Our coefficient of interest is θ , which is the standard differences-in-differences estimator in in this framework.

We are also interested in whether the low priority law was differentially enforced by race. We amend Equation (1) by including an indicator NW_{ait} for whether the suspect is recorded as being Nonwhite ($NW_{ait} = 1$) or White ($NW_{ait} = 0$).¹² This indicator is then interacted with the components of our model that produces the differences-in-differences estimator. The resulting model takes the following form:

$$Y_{ait} = \alpha + \beta LPL_{ait} + \gamma Post_{ait} + \theta LPL_{ait} * Post_{ait} + \Pi_1 NW_{ait} + \Pi_2 LPL_{ait} * NW_{ait} + \Pi_3 Post_{ait} * NW_{ait} + \Pi_4 LPL_{ait} * Post_{ait} * NW_{ait} + \mu_i + \delta_t + \tau\eta_i + \tau^2\eta_i + \varepsilon_{ait} \quad (2)$$

A nonzero estimate of Π_4 would indicate that the low priority law was implemented differentially for White versus Nonwhite suspects.

V. Results

Impact of Low Priority Laws on Arrest Outcomes

¹² We have also estimated models that differentiate Black, White, Hispanic, Asian and Other but find no differences across these groups. Therefore, we pool all Nonwhite individuals for this analysis.

Tables 3 and 4 present our main results for the effect of Low Priority Laws on the arrest behavior of the LASD. The tables are identically structured but the dependent variable in Table 3 is an indicator for whether the arrest was for misdemeanor marijuana possession and the dependent variable in Table 4 is an indicator for whether the arrest was for felony marijuana possession. The columns of the tables are parameter estimates from variations of the model specified in Equation (1), where each column accounts for different components of the unobserved heterogeneity. Column (1) includes only reporting district fixed effects, column (2) adds time fixed effects, column (3) adds reporting district-specific linear time trends and column (4) estimates the full model specified with Equation (1) that also has quadratic trends specific to each reporting district. Each model is estimated with least squares with the errors clustered by reporting district.

While there is no effect of low priority laws on felony marijuana arrests in Table 4, in Table 3, the likelihood of a misdemeanor marijuana arrest is significantly lower in reporting districts with low priority laws once reporting district fixed effects are included. Similar to the unconditional estimates in Table 2, the rate of misdemeanor marijuana arrests is higher after the low priority initiative passed in all reporting districts. Our coefficient of interest is found in the row labeled LPL*Post. The coefficient is negative and statistically significant in columns (1)-(3) but the estimate becomes slightly less negative as time fixed effects and linear trends are added to the model. The coefficient in column (3) is -0.0072, which is a large reduction in the rate of misdemeanor marijuana arrests relative to the baseline of 0.0009 for reporting districts with low priority laws found in Table 1. Column (4) of Table 3 adds quadratic trends to the model, which wipes

out the result and confirms the source of identification for the negative effect in columns (1)-(3) comes from the large spike higher in arrest rates in reporting districts not subjected to the low priority initiative.

Figures 1 and 2 hinted that any reduction in the likelihood of misdemeanor marijuana arrest from a differences-in-differences estimate would come from a relatively higher rate of arrest in reporting districts that were not subjected to the low priority initiative after it was passed, not through an absolute reduction in misdemeanor marijuana arrests in reporting districts in West Hollywood. The arrest rate clearly spikes higher in Figure 2 after the initiative passed in reporting districts not subjected to the initiative, showing a nonlinear pattern to the data.

This finding relates to a growing literature regarding behavior in general within the criminal justice system. In general, while policy makers may write laws following their preferences and/or the preferences of their constituents, at the end of the day it is up to those parties within the criminal justice system to either enforce these laws appropriately or not. For example, while sentencing guidelines may be enacted, it is up to the judges to follow these policies (see Tonry (2008) for a discussion of the behavior and enforcement of these policies). Therefore, the spike in arrests in those jurisdictions that did not enact a low priority law suggests that police are adjusting their behavior by arresting more in areas without the policy, possibly as a subtle form of protest against a policy that they do not like. ~~Column (4) of Table 3 adds quadratic trends to the model, which wipes out the result and confirms the source of identification for the negative~~

~~effect in columns (1)-(3) comes from the large spike higher in arrest rates in reporting districts not subjected to the low priority initiative.~~

The source of identification can easily be seen by plotting the residuals of models that account for the unobserved heterogeneity but do not include variables for the low priority law, the post-adoption indicator or the interaction. Figures 3-6 plot the residuals by month for the models estimated from columns (1)-(4) of Table 3 where LPL, Post and LPL*Post are excluded. The dashed line is the average residual and the solid lines are 95% confidence bands. Residuals pertaining to low priority reporting districts are plotted in blue and residuals pertaining to the other reporting districts are plotted in black. The vertical line identifies the month in with-which the low priority initiative took effect.

Figure 3 shows the residuals when only including reporting district fixed effects, Figure 4 shows the residuals after adding time fixed effects, Figure 5 shows the residuals after including linear trends and Figure 6 shows the residuals after including quadratic trends. Much of the variation in Figures 1 and 2 remains in Figure 3 when only reporting district fixed effects are included in the model. Including time effects and reporting district-specific linear trends in Figures 4 and 5 wipes out much of the variation but there is still enough variation to identify a relatively lower arrest rate in reporting districts. It is only when quadratic trends are included in Figure 6 that any differences between low priority and non-low priority reporting districts washes out. This confirms that the apparent reduction in misdemeanor marijuana arrest rates due to the low priority law is driven by a large, nonlinear increase in the arrest rates in other reporting districts after the law took place.

Since the low priority initiative should have provided the LASD incentive to allocate more time toward more serious criminal activity, we also investigate the effect of the initiative on other arrest outcomes. Table 5 shows the effect of the initiative on a set of violent crime arrests and Table 6 shows the effect of the initiative on a selected group of other crimes. There appears to have been a small reduction in the rate of arrests for rape, although it is only marginally significant at the 10% level. The arrest rate for aggravated assault and petty theft increased but we see no effect on other crimes. The coefficient for aggravated assault is 0.0103 and the coefficient for petty theft is 0.0098. The baseline for aggravated assault in low priority reporting districts from Table 1 is 0.020 and the baseline for petty theft is 0.051 for low priority reporting districts. Therefore, the arrest rate for aggravated assault increased by 50% over the baseline and the arrest rate for petty theft increased by about 20% over the baseline.

Low Priority Laws and Race

Tables 7 and 8 estimate variations of the specification in Equation (2) and have a similar structure to Tables 3 and 4. The columns of the tables increasingly add additional components of unobserved heterogeneity where column (4) estimates exactly the specification as written in Equation (2). The dependent variable in Table 7 is an indicator (=1) if the arrests was for misdemeanor marijuana possession and the dependent variable in Table 8 is an indicator (=1) if the arrest was for felony marijuana possession. The test for racial differences in the implementation of the initiative can be seen by inspecting the coefficients in the row for LPL*Post*Nonwhite.

There appears to be no statistically significant evidence that the LASD differentially implemented the law for individuals of different race. The coefficient on $LPL*Post*Nonwhite$ is sometimes positive and sometimes negative, but never statistically different from zero. The estimates do suggest, however, that a larger fraction of misdemeanor marijuana arrests in West Hollywood are nNonwhite individuals (positive coefficient on $LPL*Nonwhite$) and that the misdemeanor marijuana arrest rate declined for nNonwhites across all reporting districts after the initiative passed (negative coefficient on $Post*Nonwhite$).

VI. Conclusions

We utilize novel data pertaining to the universe of arrest records from the Los Angeles Sheriff's Department between January 2000 and December 2007 to investigate the adoption of a low priority initiative by West Hollywood, California in June 2006. The adoption of the low priority initiative mandated the LA Sheriff's Department, West Hollywood's primary policing agency, to de-emphasize the enforcement of misdemeanor marijuana possession crimes. The mandate impacted 22 of the 943 reporting districts for which the LA Sheriff's department has jurisdiction and made arrests in our data.

We estimate the impact of the low priority initiative on the likelihood of arrest for misdemeanor and felony marijuana possession, separately, using a differences-in-differences framework in a panel data setting that absorbs a large amount of unobserved heterogeneity. While we find no effect of the initiative on felony marijuana arrests, we find

relatively large declines in the rate in which arrests are made for misdemeanor marijuana possession in reporting districts that were subjected to the mandate. However, the negative effects of the low priority initiative on misdemeanor marijuana possession are not due to an absolute drop in the arrest rate but instead reflect a large increase in the arrests rate for misdemeanor possession in reporting districts not affected by the initiative that did not simultaneously occur in West Hollywood's reporting districts. That is, the rate at which the LA Sheriff's Department arrested individuals for marijuana possession outside of West Hollywood increased dramatically after the initiative was passed but officers did not increase the arrest rate of individuals as much in reporting districts within West Hollywood.

In one regard the initiative has failed, as the arrest rate for marijuana possession increased in West Hollywood after the law passed but it succeeded in the sense that the LA Sheriff's Department did not enforce the laws with the same increased intensity as it did outside of West Hollywood. We also find little evidence that arrest rates increased for non-marijuana crimes as would be expected if the LA Sheriff's Department reallocated resources toward more serious crimes.

For a large fraction of the arrest records, we also have a race identifier that allows us to test whether or not the initiative was differentially implemented. While we find no statistically significant evidence that the low priority law was differentially implemented the law across race, we do find that a larger fraction of misdemeanor marijuana arrests in West Hollywood are nNonwhite and that the misdemeanor marijuana arrest rate declined for Nonwhites across all reporting districts after the initiative passed.

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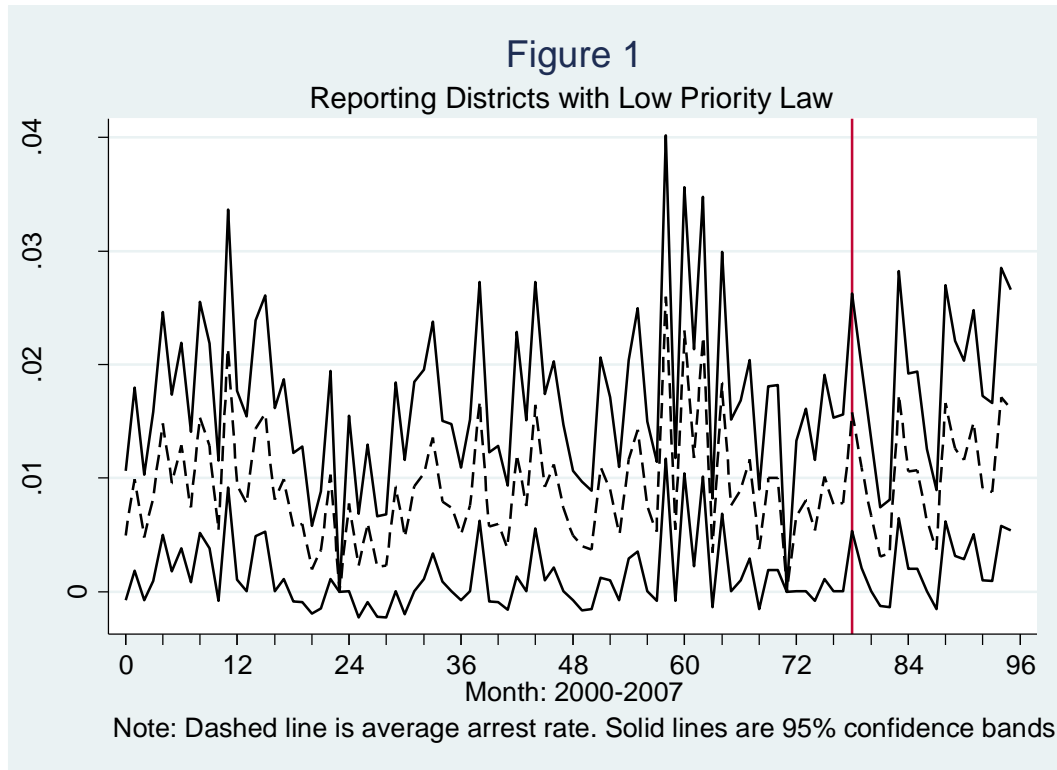
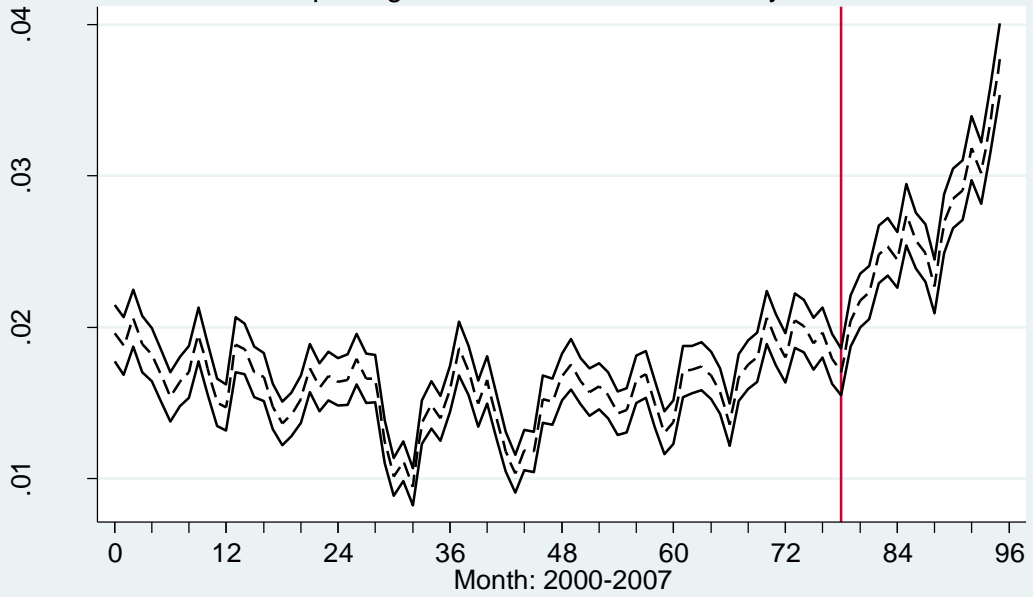


Figure 2

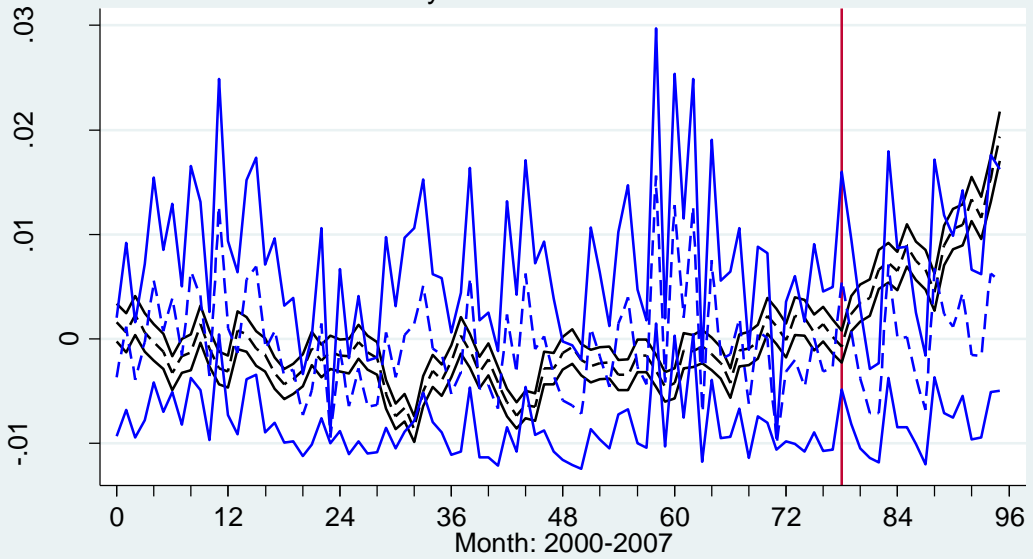
Reporting Districts with No Low Priority Law



Note: Dashed line is average arrest rate. Solid lines are 95% confidence bands.

Figure 3

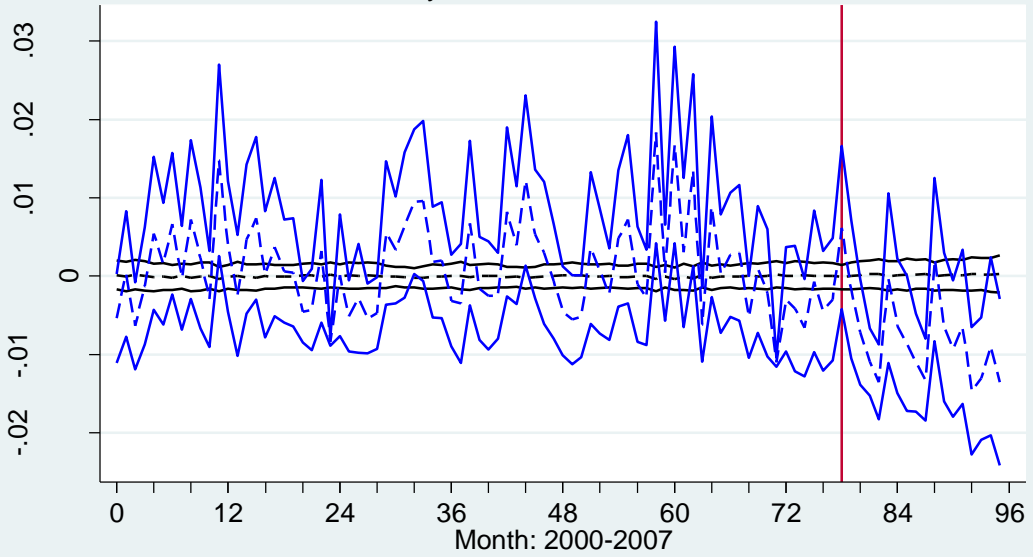
Residuals After Removing Reporting District Fixed Effects
Low Priority RD in Blue Other RD in Black



Note: Dashed line is average residual. Solid lines are 95% confidence bands.

Figure 4

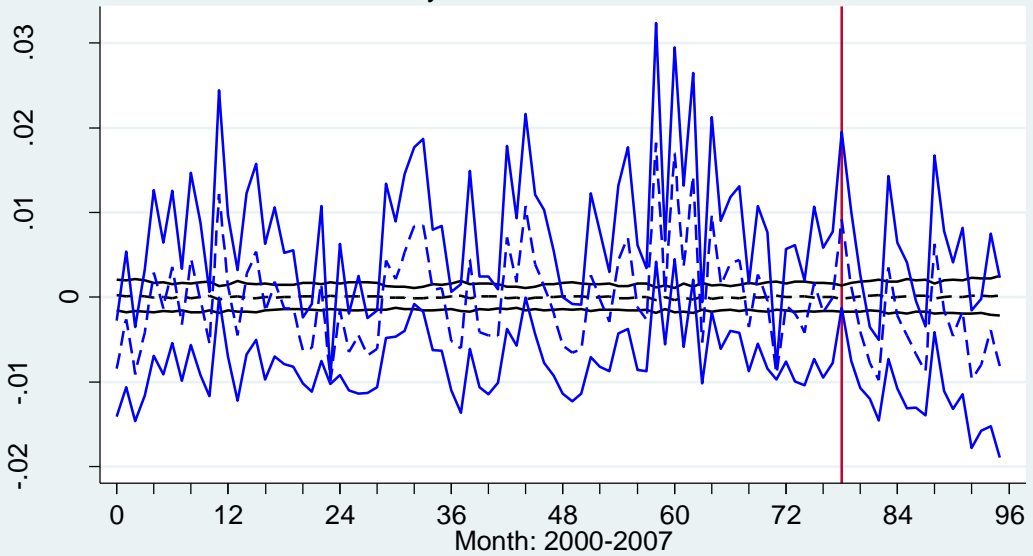
Residuals After Removing Reporting District and Time FE
Low Priority RD in Blue Other RD in Black



Note: Dashed line is average residual. Solid lines are 95% confidence bands.

Figure 5

Residuals After Removing RD & Time FE & Linear Trends
Low Priority RD in Blue Other RD in Black



Note: Dashed line is average residual. Solid lines are 95% confidence bands.

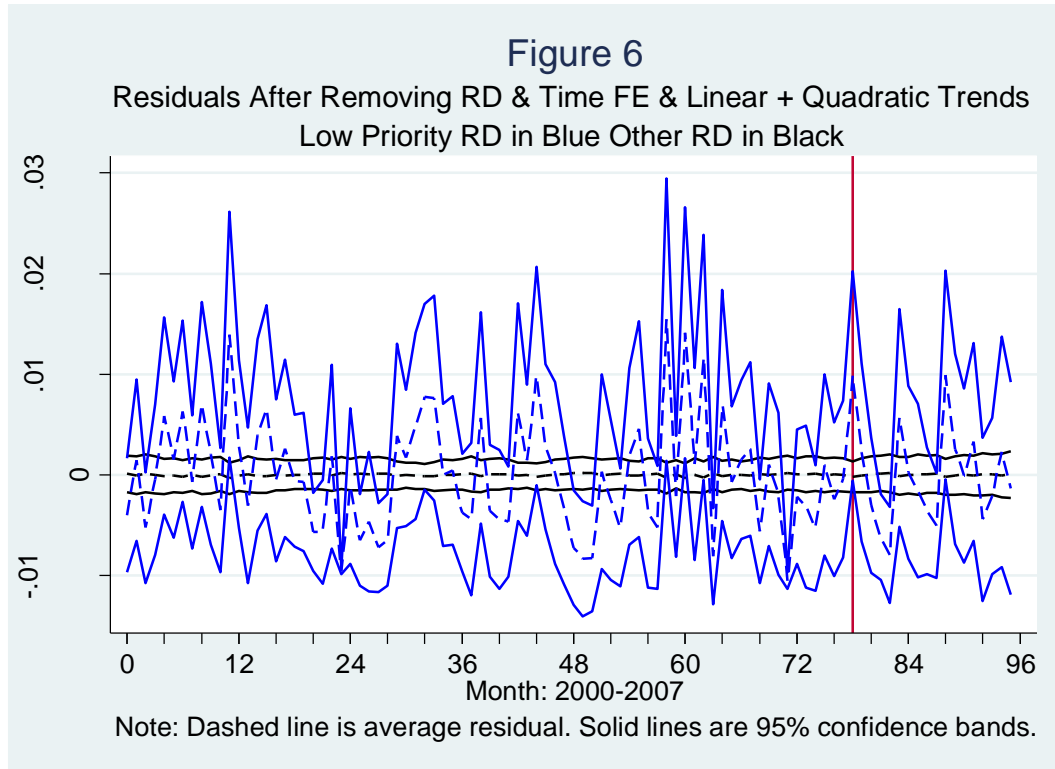


Table 1: Summary Statistics

Panel A			
	Full Sample	Low Priority Law = 1	Low Priority Law = 0
Nonwhite	0.789 (0.408)	0.469 (0.499)	0.797 (0.402)
Low Priority Law	0.021 (0.142)	--	--
Misdemeanor Marijuana	0.018 (0.133)	0.009 (0.096)	0.018 (0.133)
Felony Marijuana	0.003 (0.052)	0.001 (0.038)	0.003 (0.052)
Homicide	0.001 (0.031)	0.000 (0.017)	0.001 (0.031)
Robbery	0.018 (0.131)	0.021 (0.143)	0.017 (0.131)
Rape	0.002 (0.045)	0.002 (0.048)	0.002 (0.045)
Aggravated Assault	0.028 (0.165)	0.020 (0.139)	0.028 (0.166)
Assault	0.034 (0.181)	0.042 (0.201)	0.034 (0.181)

Burglary	0.049 (0.217)	0.040 (0.197)	0.050 (0.217)
Grand Theft	0.027 (0.162)	0.045 (0.208)	0.026 (0.160)
Grand Theft Auto	0.051 (0.221)	0.035 (0.183)	0.052 (0.221)
Petty Theft	0.046 (0.209)	0.051 (0.219)	0.045 (0.208)
Sex Offense	0.005 (0.068)	0.005 (0.068)	0.005 (0.068)
<i>Observations</i>	2544305	52672	2491633

Panel B

	Nonwhite = 1	Nonwhite = 0
Misdemeanor Marijuana	0.050 (0.218)	0.051 (0.220)
Felony Marijuana	0.008 (0.088)	0.006 (0.077)
<i>Observations</i>	572991	152934

Note: Entries are the sample mean with standard deviation in parentheses. There are 725925 non-missing entries for the race identifier.

Table 2: Unconditional Differences in Marijuana Arrests

Panel A					
		LPL = 0		LPL = 1	
	Full Sample	Pre-treatment	Post-Treatment	Pre-treatment	Post-Treatment
Misdemeanor Marijuana	0.0180 (0.1328)	0.016 (0.126)	0.026 (0.160)	0.009 (0.095)	0.011 (0.103)
		Difference = 0.010*** [0.0002]		Difference = 0.002 [0.0011]	
Difference-in-Difference = -0.009*** [0.002]					
Panel B					
		LPL = 0		LPL = 1	
	Full Sample	Pre-treatment	Post-Treatment	Pre-treatment	Post-Treatment
Felony Marijuana	0.0027 (0.0516)	0.0025 (0.050)	0.0033 (0.058)	0.001 (0.037)	0.002 (0.042)
		Difference = 0.0009*** [0.00009]		Difference = 0.0004 [0.0004]	
Difference-in-Difference = -0.0005 [0.0006]					

Note: LPL stands for Low Priority Law. Entries in the table reflect the proportion of misdemeanor and felony marijuana arrests for all arrests made by the Los Angeles County Sherriff's Department for the full sample period 2000-2007. Standard deviations are in parentheses. Standard errors are in brackets for the t-tests for the difference in means equal to zero and assuming unequal variances. For the full sample N=2,544,305. ***indicates p-value<0.01.

Table 3: The Effect of Low Priority Law on Misdemeanor Marijuana Arrests

	(1)	(2)	(3)	(4)
Low Priority Law	-0.0028 (0.0021)	-0.0035* (0.0021)	-0.0036* (0.0020)	-0.0039* (0.0021)
Post	0.0103*** (0.0007)	0.0180*** (0.0021)	-0.0033* (0.0020)	0.0331*** (0.0021)
LPL*Post	-0.0093*** (0.0021)	-0.0091*** (0.0021)	-0.0072*** (0.0018)	-0.0007 (0.0017)
Constant	0.0160*** (0.0001)	0.0194*** (0.0012)	0.0192*** (0.0011)	0.0294*** (0.0012)
Reporting District FE	Yes	Yes	Yes	Yes
Period FE	No	Yes	Yes	Yes
RD-specific linear time trends	No	No	Yes	Yes
RD-specific quadratic time trends	No	No	No	Yes
R^2	0.011	0.011	0.013	0.014
Observations	2544305	2544305	2544305	2544305

Note: The dependent variable is a binary indicator for a misdemeanor marijuana arrest. Models are estimated by least squares with errors clustered by reporting district. Standard errors are in parentheses, clustered at the reporting district level. LPL=1 if the reporting district is subject to the Low Priority Law. Post=1 after the law took effect. FE stands for fixed effects and RD stands for reporting district. * p<0.1, ** p<0.05, *** p<0.01

Table 4: The Effect of Low Priority Laws on Felony Marijuana Arrests

	(1)	(2)	(3)	(4)
Low Priority Law	0.0003 (0.0006)	0.0003 (0.0006)	0.0003 (0.0006)	0.0003 (0.0007)
Post	0.0009*** (0.0001)	0.0018*** (0.0005)	0.0006 (0.0006)	0.0012** (0.0006)
LPL*Post	-0.0006 (0.0004)	-0.0006 (0.0004)	-0.0008 (0.0005)	-0.0002 (0.0007)
Constant	0.0025*** (0.0000)	0.0022*** (0.0003)	0.0021*** (0.0003)	0.0017*** (0.0003)
Reporting District FE	Yes	Yes	Yes	Yes
Period FE	No	Yes	Yes	Yes
RD-specific linear time trends	No	No	Yes	Yes
RD-specific quadratic time trends	No	No	No	Yes
R^2	0.004	0.004	0.004	0.005
Observations	2544305	2544305	2544305	2544305

Note: The dependent variable is a binary indicator for a felony marijuana arrest. Models are estimated by least squares with errors clustered by reporting district. Standard errors are in parentheses, clustered at the reporting district level. LPL=1 if the reporting district is subject to the Low Priority Law. Post=1 after the law took effect. FE stands for fixed effects and RD stands for reporting district. * p<0.1, ** p<0.05, *** p<0.01

Table 5: The Effect of Low Priority Laws on Violent Crime Arrests

	(1) Homicide	(2) Robbery	(3) Rape	(4) Aggravated Assault	(5) Assault
Low Priority Law	0.0000 (0.0002)	-0.0011 (0.0015)	-0.0005 (0.0006)	-0.0026 (0.0020)	-0.0013 (0.0037)
Post	-0.0006 (0.0003)	0.0175*** (0.0017)	0.0042*** (0.0005)	-0.0324*** (0.0017)	0.0159*** (0.0020)
LPL*Post	0.0001 (0.0004)	0.0052 (0.0036)	-0.0017* (0.0010)	0.0103*** (0.0026)	-0.0027 (0.0024)
Constant	0.0010*** (0.0002)	0.0266*** (0.0010)	0.0026*** (0.0003)	0.0308*** (0.0011)	0.0359*** (0.0013)
Reporting District FE	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes
RD-specific linear time trends	Yes	Yes	Yes	Yes	Yes
RD-specific quadratic time trends	Yes	Yes	Yes	Yes	Yes
R^2	0.007	0.008	0.002	0.012	0.007
Observations	2544305	2544305	2544305	2544305	2544305

Note: The dependent variable is a binary indicator for the type of arrest identified across the columns. Models are estimated by least squares with errors clustered by reporting district. Standard errors are in parentheses, clustered at the reporting district level. LPL=1 if the reporting district is subject to the Low Priority Law. Post=1 after the law took effect. FE stands for fixed effects and RD stands for reporting district. * p<0.1, ** p<0.05, *** p<0.01

Table 6: The Effect of Low Priority Laws on Property Crime and Other Arrests

	(1) Burglary	(2) Grand Theft	(3) Grand Theft Auto	(4) Petty Theft	(5) Sex Offense
Low Priority Law	-0.0039* (0.0022)	-0.0067*** (0.0022)	0.0004 (0.0041)	-0.0009 (0.0018)	-0.0024 (0.0023)
Post	-0.0680*** (0.0029)	-0.0515*** (0.0017)	0.0161*** (0.0028)	-0.0313*** (0.0025)	0.0004 (0.0017)
LPL*Post	-0.0047 (0.0078)	0.0081 (0.0063)	0.0012 (0.0021)	0.0098*** (0.0028)	0.0036 (0.0027)
Constant	0.0293*** (0.0019)	0.0550*** (0.0010)	0.0499*** (0.0017)	0.0537*** (0.0018)	0.0033*** (0.0007)
Reporting District FE	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes
RD-specific linear time trends	Yes	Yes	Yes	Yes	Yes
RD-specific quadratic time trends	Yes	Yes	Yes	Yes	Yes
R^2	0.011	0.013	0.014	0.039	0.028
Observations	2544305	2544305	2544305	2544305	2544305

Note: The dependent variable is a binary indicator for the type of arrest identified across the columns. Models are estimated by least squares with errors clustered by reporting district. Standard errors are in parentheses, clustered at the reporting district level. LPL=1 if the reporting district is subject to the Low Priority Law. Post=1 after the law took effect. FE stands for fixed effects and RD stands for reporting district. * p<0.1, ** p<0.05, *** p<0.01

Table 7: The Effect of Low Priority Law on Misdemeanor Marijuana Arrests by Race

	(1)	(2)	(3)	(4)
Low Priority Law	-0.0138** (0.0055)	-0.0131** (0.0055)	-0.0154*** (0.0052)	-0.0161*** (0.0053)
Post	0.0340*** (0.0027)	0.0907*** (0.0061)	0.0946*** (0.0064)	0.2301*** (0.0070)
LPL*Post	-0.0302*** (0.0063)	-0.0297*** (0.0064)	-0.0116** (0.0049)	-0.0033 (0.0065)
Nonwhite	0.0006 (0.0013)	0.0001 (0.0013)	-0.0001 (0.0013)	0.0001 (0.0013)
LPL*Nonwhite	0.0107** (0.0046)	0.0108** (0.0046)	0.0113** (0.0045)	0.0111** (0.0044)
Post*Nonwhite	-0.0082*** (0.0025)	-0.0081*** (0.0025)	-0.0061*** (0.0023)	-0.0065*** (0.0022)
LPL*Post*Nonwhite	0.0012 (0.0074)	0.0013 (0.0074)	-0.0013 (0.0072)	-0.0002 (0.0071)
Constant	0.0435*** (0.0012)	0.0139*** (0.0032)	0.0129*** (0.0029)	0.0408*** (0.0044)
Reporting District FE	Yes	Yes	Yes	Yes
Period FE	No	Yes	Yes	Yes
RD-specific linear time trends	No	No	Yes	Yes
RD-specific quadratic time trends	No	No	No	Yes
R^2	0.019	0.022	0.026	0.028
Observations	725925	725925	725925	725925

Note: The dependent variable is a binary indicator for a misdemeanor marijuana arrest. Models are estimated by least squares with errors clustered by reporting district. Standard errors are in parentheses, clustered at the reporting district level. LPL=1 if the reporting district is subject to the Low Priority Law. Post=1 after the law took effect. FE stands for fixed effects and RD stands for reporting district. * p<0.1, ** p<0.05, *** p<0.01

Table 8: The Effect of Low Priority Laws on Felony Marijuana Arrests by Race

	(1)	(2)	(3)	(4)
Low Priority Law	0.0004 (0.0019)	0.0007 (0.0019)	0.0006 (0.0019)	0.0007 (0.0020)
Post	0.0028*** (0.0006)	0.0079*** (0.0015)	0.0055*** (0.0019)	0.0065*** (0.0021)
LPL*Post	-0.0014 (0.0022)	-0.0013 (0.0022)	-0.0008 (0.0026)	0.0003 (0.0030)
Non-White	0.0000 (0.0003)	-0.0000 (0.0003)	0.0001 (0.0003)	0.0000 (0.0003)
LPL*NW	0.0008 (0.0015)	0.0009 (0.0015)	0.0008 (0.0015)	0.0007 (0.0015)
Post*NW	-0.0005 (0.0007)	-0.0005 (0.0007)	-0.0007 (0.0007)	-0.0005 (0.0007)
LPL*Post*NW	-0.0028 (0.0032)	-0.0029 (0.0032)	-0.0026 (0.0032)	-0.0026 (0.0033)
Constant	0.0069*** (0.0003)	0.0026*** (0.0007)	0.0024*** (0.0007)	0.0016 (0.0011)
Reporting District FE	Yes	Yes	Yes	Yes
Period FE	No	Yes	Yes	Yes
RD-specific linear time trends	No	No	Yes	Yes
RD-specific quadratic time trends	No	No	No	Yes
R^2	0.006	0.006	0.007	0.009
Observations	725925	725925	725925	725925

Note: The dependent variable is a binary indicator for a felony marijuana arrest. Models are estimated by least squares with errors clustered by reporting district. Standard errors are in parentheses, clustered at the reporting district level. LPL=1 if the reporting district is subject to the Low Priority Law. Post=1 after the law took effect. NW stands for Nonwhite, FE for fixed effects and RD for reporting district. * p<0.1, ** p<0.05, *** p<0.01