Spring 2020

# BERKELEY PUBLIC POLICY JOURNAL

## DESIGNING EQUITABLE POLICIES

*Engineering Equity in Oakland's Cannabis Market*

*Encouraging Breastfeeding with Universal Maternal Leave*

*Mitigating Black Maternal Mortality*

## ENSURING A SUSTAINABLE FUTURE IN CALIFORNIA

*Evaluating California's Electric Vehicle Policies*

*Community Risk Sharing Organizations for Wildfire Insurance in California*

...AND AN INTERVIEW WITH UC PRESIDENT JANET NAPOLITANO

# EDITORS' NOTE

As students of public policy, the 2019-2020 academic year starkly illustrated the steep challenges confronting our field. We began the year with a series of power outages that foreshadowed California's future as it battles the consequences of climate change and concluded the year with a global pandemic that unveiled the gaps in our public health infrastructure and governance. Squeezed between these calamities was an inconclusive impeachment trial laying bare this president and his allies' brazen corruption, a series of "wildcat" strikes at every UC campus demanding wages that reflect the rising costs of living for graduate student workers, and a raucous presidential primary demonstrating the deep generational fault lines in our country.

It is perhaps an understatement to say that these events have increased our collective anxiety as we contemplate our murky future. But this anxiety is also tempered by hope in the promise of public policy to overcome these seemingly insurmountable obstacles. The articles in this Spring 2020 issue represent the best of this impulse: speaking truth in the language of power and seeking change that would make our local and global communities more just and resilient. We are especially proud that this journal features the work of both Goldman students across programs and graduate students across campus.

Our journal begins with MPA student Aly Bonde's analysis of Oakland's cannabis equity program, intended to ensure access to cannabis industry opportunities for people of color disproportionately impacted by the so-called "war on drugs." Next, Master of Public Health student Marie Salem argues that paid maternity leave is integral to improving breastfeeding rates in the United States. MPP student Jake McDermott summarizes, scores, and analyzes state electric vehicle policies, identifying many opportunities for California to draw on lessons learned in other states. Second-year MPP students Angélica Marie Pagán, Vanessa Quintana, and Jenine Spotnitz utilize a race, gender, and class framework to analyze the alarmingly high maternal mortality rates found among black women in the United States, proposing multiple solutions to reduce these appalling disparities. Master of Development Practice student Sadie Frank discusses a community-wide private insurance model to address wildfire risk in California. And lastly, BPPJ editors Molly McGregor and Amelia Watts interview University of California President Janet Napolitano on her long career in policy and politics.

Speaking of President Napolitano, who is slated to join our distinguished faculty soon, this interview was conducted prior to a series of actions taken by UC to retaliate against graduate student workers at UC Santa Cruz demanding a living wage and demilitarization of UC police forces. The administration's retaliation campaign, including firing workers and campus police physically assaulting picketers, reflects a disturbing pattern of disregard for the basic needs of those who make UC work.

The Berkeley Public Policy Journal stands in solidarity with workers demanding that UC pay a living wage and demilitarize its police. We strongly condemn the actions taken by the University of California under President Napolitano to retaliate against student strikers, and demand the University bargain in good faith with our representatives in UAW 2865 to meet the needs of graduate student workers. We also stand in solidarity with UC service and health care workers, who had been striking last fall to prevent the outsourcing of their jobs. UC cannot and must not use this moment of global crisis to shirk responsibility for the health and safety of its own workers. As we enter a century of climate crisis and disruption, our institutions must demonstrate that they are able to serve these basic needs, or we must build new ones that can.

Lastly, this publication marks the second and final edition of BPPJ that we will see as editors in chief. We are thrilled to pass the torch to first year students Reyna McKinnon and Sana Satpathy, who we know will do a phenomenal job of leading the journal over the next year. We thank the authors, editors, and GSPP staff who made this publication possible and hope you, the reader, are just as inspired as we are by their work.

**Ben Menzies and Maitreyi Sistla**

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# ENGINEERING EQUITY IN OAKLAND'S CANNABIS MARKET

by Aly Bonde

# ENGINEERING EQUITY IN OAKLAND'S CANNABIS MARKET

ALY BONDE

Edited by: Nick Draper, Emily Estus, Samuel Glaser-Nolan, and Nandita Sampath

*Oakland's Cannabis Equity Program is a national model for cities attempting to ensure that some of the beneficiaries of legalizing cannabis come from the communities of color that are disproportionately harmed by the War on Drugs. Without policy intervention, most cannabis businesses, in states with legal recreational use, are white-owned and operated by wealthy individuals with pre-existing access to capital. Meanwhile, the costs of entering the market are often prohibitively high for low-income individuals and people of color. This article provides an overview of the political, administrative, and regulatory path Oakland took to actualize the Cannabis Equity Program and highlights its strengths and weaknesses. It also makes recommendations for how Oakland can adjust the Program and other city statutes to continue centering on equity in this field.*

In 2017, Oakland designed and implemented the Cannabis Equity Program, aimed at giving people of color victimized by the War on Drugs a fair chance of benefiting from the newly legalized recreational cannabis market. The result was a national movement for cannabis equity and a reputation for Oakland as an innovative policy originator. Like many cities, Oakland has a history of racial disparities in policing, particularly surrounding arrests for cannabis activity. At the outset of the Green Rush, City of Oakland leaders attempted to design a cannabis economy that could rectify this difficult racial history through equity-based policy, understanding that equity is fundamentally different from race-neutral equality. As the Oakland Department of Race and Equity explains, "Equity is fairness. Equity means all people have full and equal access to opportunities that enable them to attain their full potential. Equality focuses on giving everyone the same thing, regardless of outcomes." Oakland worked to design a system that gave priority to businesses owned by victims of the War on Drugs and other businesses that would incubate them. Oakland's cannabis equity program has succeeded in increasing the number of cannabis entrepreneurs of color who had access to the booming new market. However, the limitations all cities face in assisting small businesses along with generations of structural racism have combined to limit successful outcomes for equity businesses. The City of Oakland is now faced with the question of how to continue centering equity in the cannabis economy once the initial permitting phase has finished.

## OAKLAND'S HISTORY WITH CANNABIS ACTIVITY

Oakland has been a national leader in creating systems that help cannabis businesses thrive. In 2004, when only medical cannabis was legal at the state level, Oakland became the first city in the U.S. to create a system to regulate and tax medical cannabis businesses. As a result, medical cannabis dispensaries found great success in Oakland, which became widely regarded as the most medical cannabis-friendly local jurisdiction in America. During the Great Recession, Oakland leaned on these cannabis businesses for revenue and passed a ballot measure to double their taxes to five percent of gross receipts.

Unfortunately, the gains from the medical cannabis boom were not equally shared. Throughout this period, parallel models of law enforcement in Oakland evolved for the same substance — one track being a hands-off approach to the largely white-owned medical cannabis businesses and the other an active enforcement model for informal, non-permitted recreational cannabis entrepreneurs. Prior to Oakland's recreational cannabis boom, the increased penalties and enforcement of minor drug crimes of the War on Drugs hit Oakland's African American and Latinx communities disproportionately hard. African Americans have comprised between one quarter and one half of Oakland's population since the first half of the 20th century, but represent the vast majority of cannabis-related arrests from 1995 to 2015 as shown by Figure 1.[1] Studies have widely established that this is not because of increased use or sale of cannabis in communities of color but is instead the result of an enormous disparity in the rates of arrest.[2]

Meanwhile, the semi-legalized and predominantly white-owned medical cannabis businesses began openly operating in Oakland after state legalization of medical cannabis in 1996. Medical cannabis dispensaries (brick and mortar retail), cultivation centers, and distribution business models flourished with little interference from the Oakland Police Department, although the businesses did clash with federal law enforcement at times.

## DESIGNING A NEW ECONOMY

In the spring of 2016, it appeared increasingly likely that California voters would legalize recreational cannabis sales via a ballot measure in the November election, similar to Oregon, Colorado and other states in previous years. Not wanting to give up its competitive advantage as a cannabis hub, Oakland began developing its recreational cannabis permitting system to prepare for the measure's set legalization date of January 1, 2018. Businesses were required to have their local permits in place in order to qualify for state permission to sell recreational cannabis. Businesses who were able to get out of the starting gate first on that day were at a considerable advantage in the new boom economy. However, city leaders were grappling with the problem that too few of the individuals poised to benefit from the anticipated surge in legalized cannabis profits were from the communities of color that had been disproportionately negatively impacted by the War on Drugs.

At the same time, the City of Oakland's administrative departments, City Council, and Mayor's Office were in the first stages of attempting an institutional culture shift toward placing greater weight on equity and inclusion of historically marginalized communities. In 2015, the Council voted to create the nation's second Department of Race and Equity (following Portland) and tasked it with analyzing policies and systems through a racial equity lens. The cannabis permitting system would prove to be the department's first major assignment.

The initial "business as usual" proposal for the permit system was developed by an advisory body to the Council comprised mostly of citizens with ties to the existing industry called the Cannabis Regulatory Commission. This proposal came to the Council in early 2016, but it clashed with the Council's stated goal of embedding equity in its future policies. East Oakland Councilmember Desley Brooks proposed an amendment to reserve half of all new recreational cannabis business permits for residents from six of Oakland's 54 police beats or for those with a previous cannabis arrest in Oakland. They would be termed "equity applicants" as opposed to all other "general applicants." The six police beats were largely in Councilmember Brooks' district and had been heavily impacted by the War on Drugs. "Oakland is really fortunate to have the political will and Councilmember Brooks was the catalyst by far," Assistant to the City Administrator Greg Minor said in an interview.[3] "Not that Oakland is perfect but the later an equity framework is added, the harder it is [to be successful]."

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The proposal angered some existing cannabis businesses and would-be entrepreneurs of all races and ethnicities that would not qualify due to its narrow scope. The policy excluded the entirety of West Oakland and other areas of East Oakland that had also suffered from high racial disparities in cannabis arrest rates. The Brooks amendment passed in May 2016 with the promise from some council members to bring additional changes at a later date to amend the equity program. This set the stage for one of Oakland's ugliest debates in years as leaders grappled with how to bake equity into a changing economy.

Most Oakland elected officials and city staff were supportive of the general idea of an equity program but felt the specifics needed to be fine tuned. Existing business owners felt betrayed by a city that encouraged them to start medical cannabis businesses but then threatened to restrict their potential access to the recreational market, effectively killing their business. They lobbied heavily against the equity permit system as it was first proposed. Cannabis entrepreneurs of color who didn't meet the restrictions to qualify as an equity applicant also felt betrayed by the narrow scope of the equity program.

In response to the push to weaken the equity program, some council members countered with increasingly punitive amendments targeted at existing cannabis businesses, including a 25 percent tax on all profits and entitling the city to a seat on their Board of Directors. A proposal was floated to charge $10,000 per day fines and charge back-taxes on existing cannabis businesses, yet it was quickly withdrawn. The chaos that ensued threatened to derail the issuance of both equity and

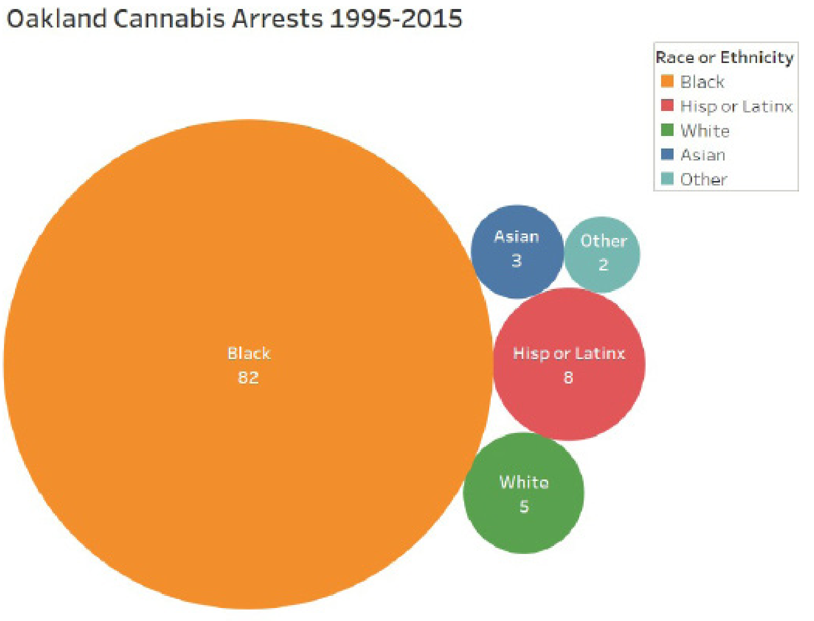


Figure 1: Cannabis Arrests in Oakland by Race

general permits and set back all businesses as state deadlines for local implementation loomed. After many heated council meetings, the City Council voted in November 2016 to refer the question of how best to implement a cannabis equity system to the newly created Department of Race and Equity and Assistant City Administrator Greg Minor in an effort to task them with finding the best path forward.

Minor and Department of Race and Equity Director Darlene Flynn returned to Council in February 2017 with recommendations and the racial disparity analysis of arrest data outlined in Figure 1. In an interview, Flynn stressed the importance of process, data, and narrative when it comes to crafting policies through an equity lens, saying "You're trying to disrupt the status quo. It's not an easy thing to do so you need all the ammunition you can get."[4] Flynn's data showed that in 2015, the most recent year on record, Latinx and African Americans made up a combined 92 percent of cannabis arrests, despite making up only 60 percent of the population. "The initial ordinance was not supported by a racial equity analysis so as soon as it passed there were attempts to undermine it," Minor said. "Once you laid out the data people couldn't dispute the recommendations." Flynn recommended creating a permit system that increased access to opportunities for communities victimized by the War on Drugs. "The data shows that for over two decades, black and brown residents were arrested and incarcerated for drug offenses at disparately high rates, while largely white cannabis cultivators, manufacturers and distributors—who were not operating entirely above board either—flourished under changing laws designed to accommodate the burgeoning industry," Flynn told the City Council at its March 7, 2017 meeting.[5]

Later that March, the Council finally passed what a majority saw as the most reasonable compromise despite continued heated debate between those who wanted to expand the equity program against those who wanted to keep it narrow. The City decided it would award permits to equity applicants and general applicants on a 1:1 ratio. An equity applicant must have been either 1) arrested after November 5, 1996 and convicted of a cannabis crime committed in Oakland, or 2) have lived in any of the 21 police beats in East and West Oakland with the highest number of cannabis-related arrests. They must also earn less than 80 percent of the city's Area Median Income (AMI). The first $3.4 million in cannabis tax revenue was set to go into a revolving loan fund to support equity businesses. After that funding level was met, the 1:1 permit ratio requirement would be lifted. General applicants could gain priority by "incubating" an equity applicant with 1,000 sq.ft. of free space. The $3.4 million funding level was met within the first six months of collecting taxes, with a total of $13.7 million in cannabis tax revenue received in the first year of adult-use legalization.[6]

## ADDRESSING IMPLEMENTATION CHALLENGES

Following the arduous political process to create the cannabis equity program, the program faced many basic capacity challenges and city staff found it far more complicated to administer than what the Cannabis Regulatory Commission had originally conceived of. City staff had never administered a program with so many documentation requirements before: equity applicants were required to submit 20 years of residency, income, and arrest records in addition to standard business records required of general applicants. These documents were not only cumbersome for staff to process but in many cases complicated for applicants to submit. Furthermore, staff had never attempted to process permits for an entire industry sector at once. When city staff began accepting applications in May 2017 the volume and complexity of the permits were staggering. The state required cannabis businesses to be locally licensed by January 1, 2018. Otherwise, the state would not allow them to operate. Permitting and inspection delays - particularly in the Fire and Building Departments - caused concern and confusion among applicants while they fought for investment capital and space to lease amidst great uncertainty. Eventually the state allowed temporary authorizations from local governments to suffice, which gave Oakland's cannabis sector the chance to get back on track. "The local authorization avoided some of the issues by allowing people to operate without formal permits as long as there are no life safety issues," Minor said.

However, two years later, many brick and mortar businesses are still operating with only their temporary license due to the complex interdepartmental permitting process created by the city. In a recent survey, equity applicants ranked city approvals among the top three barriers to their business along with slow buildouts and establishing banking services.[7] The City of Oakland's bureaucratic culture also posed challenges. Oakland has previously struggled with implementation of complex policies, and its workforce was hit hard with layoffs during the recession.

The city administration faced almost constant turnover in leadership as it cycled through several Interim City Administrators for years until the arrival of City Administrator Sabrina Landreth in 2015. Thinking of itself as a bureaucracy capable of innovation did not necessarily come naturally. Compounding these challenges was the fact that Oakland's local government has difficulty supporting most small businesses, let alone those operating in a newly legalized industry and owned by marginalized communities that might need specific education and support. The $3.4 million equity fund was used to contract with the third-party organization Make Green Go to provide services to equity applicants. However, the city does not formally track what happens to a business after it receives a permit so the ultimate impact remains largely unclear.

Other aspects of the equity program have created challenges for the city. For example, the incubator applicant requirements resulted in unintended consequences. By allowing general applicants to gain priority through providing incubation space, it tilted the playing field in favor of bigger businesses and left out smaller general applicants. The program also faced broader societal challenges in that some of the stakeholders, leaders, and staff were unfamiliar with the concept of equity versus equality. The Department of Race and Equity had to take considerable measures to educate stakeholders and bring them up to speed.

## ASSESSING THE EARLY RESULTS

The City of Oakland has received a tremendous amount of applications for permits from cannabis businesses from all sectors (i.e., dispensary, distribution, delivery, manufacturing, and cultivation) since it began accepting them in March 2017. As of November 2019, Oakland received 1,391[8] completed applications from cannabis businesses across all sectors of the industry. Of these applications, 823 were equity applicants and 369 were incubators. It is worth noting that 86 percent of the equity applicants qualify for the equity program based on residency in census tracts impacted by the War on Drugs while only 14 percent qualify based on a previous cannabis-related conviction.[9] Figure 2 provides a broad overview of the categories as well as the respective percentages of applications received within each. Equity and incubator applicants combine to make up over 87 percent of the applications received since the start of the program.

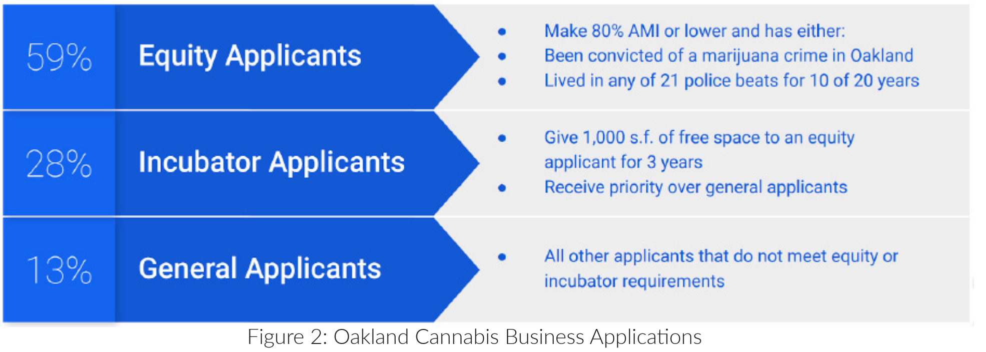


Figure 2: Oakland Cannabis Business Applications

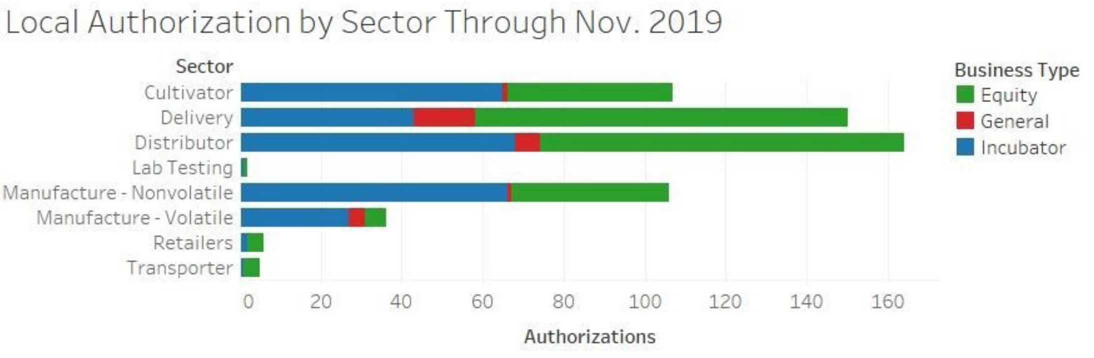


Figure 3: Local Authorization by Sector

Moving to the breakdown of which businesses have received local authorization to operate we see that, as of November 2019, Oakland had locally authorized 576 businesses across each sector since March 2017.[10, 11] The majority of these are equity businesses. Figure 3 provides a deeper dive into the demographics of Oakland's earliest recreational cannabis businesses by examining Oakland businesses that received local authorization. Equity and incubator applicants combine to form a total 549 out of 576 of the initial cannabis authorizations.[12] The delivery and distribution sectors — which also have the lowest startup capital costs — have the highest number of equity businesses. However, transport and lab testing are also majority owned by those with equity permits though those sectors only represent a small number of businesses.

Based on this data, the equity program has achieved success in increasing the number and availability of opportunities for individuals previously impacted by disparities in cannabis arrests to participate in the Green Rush onslaught of cannabis businesses. However, the key issue is whether or not these increased opportunities have actually resulted in successful business ventures. Equity businesses still face the same barriers as all small businesses, but they are compounded by historic disinvestment in their communities. Communities of color already face higher barriers to entry for business ownership than the White population due to issues ranging from lack of access to capital to employment discrimination, to racial disparities in arrest history. This was partially addressed by the $3.4 million fund for technical assistance and loans. With just under half a million of this funding, the consultants from Make Green Go provided 199 equity applicants with one-on-one consultations, held workshops attended by 660 equity applicants, and created an online business bootcamp that enrolled 785 equity applicants through March of 2019. The city committed the remaining $3 million of the equity fund for a revolving loan program, which has committed $660,000 to 20 borrowers, with 24 more under review as of Spring 2019.[13] This funding has been bolstered by Oakland's successful application for state equity funds. "Until the funding came, I couldn't really do anything," Jessie Grundy, an equity applicant who received a $100,000 loan from the equity fund told the San Francisco Chronicle.[14] "I'm just a one-man team out of Oakland, but you would never know it because I was able to get the funding to play with the big boys. If you don't have the money to play with the big brands in this business, you're going to get eaten up by the competition."

Ultimately, the equity program will be unable to completely mitigate societal disadvantages, institutionalized racism, and historic disinvestment in communities impacted by the War on Drugs. While the program met its goal of giving at least some of the victims of the War on Drugs a better chance at taking advantage of the Green Rush, city officials have less short-term ability to change the broader forces disadvantaging equity applicants. As a result, the overall impact of the equity program could be diluted. Oakland currently does not formally track what happens to equity businesses after they receive their authorization, so it is difficult to estimate the degree of commercial success they are seeing. There are also no systems currently in place to monitor the compliance of incubator businesses unless a complaint is filed. Additionally, if an incubator applicant goes out of business or loses their permit, the equity business hosted by the incubator also suffers. “In reality, these programs are giving the people of underserved communities false hopes of self-empowerment,” said Alexis Bronson, an equity applicant to the San Francisco Chronicle in October 2018. “Some will persevere, but the majority will not.”[15]

Meanwhile, the equity program likely restricted the Green Rush success of medical cannabis businesses that existed prior to recreational legalization, which had a head start on accessing the recreational market less available to owners of color. It is possible this had the overall effect of dampening the “cannabis boom” in Oakland as a whole, reducing tax revenue and lessening Oakland’s position as a boomtown for cannabis businesses. However, while city officials never publicly forecasted the earning potential of an unregulated cannabis economy, the Finance Department estimates that in 2018 Oakland cannabis businesses earned a healthy $165 million in gross receipts between both medical and recreational businesses.[16]

More broadly though, the program was highly successful in that it created a statewide movement for other cities to consider operationalizing equity in the cannabis industry as Los Angeles, Sacramento, and San Francisco have adopted similar programs (as discussed below). It also prompted the state to set aside $10 million for local government assistance programs to equity applicants, of which Oakland successfully secured $3 million in 2018. In 2019, the state set aside $30 million for equity assistance, of which Oakland is set to receive $1.6 million in the coming months.[17] “Oakland was ahead of the State by a year,” Flynn said. “We worked with them early on to ask them not to do anything in their regulations that would undermine our program like prohibited people with a felony conviction from operating a cannabis business.”

The cannabis equity program was also foundational to Oakland’s improved, though still imperfect, culture of thinking about equity as an organization. The praise and recognition that Oakland received for innovating a new equity-based program has also contributed to a renewed sense of ability and pride within the Oakland bureaucracy that would be reflected in other policy and implementation endeavors in the future. For example, Oakland would go on to upend the way it chooses which streets to repave in the spring of 2019 by enacting an equity-based three-year Paving Plan that equally weighted street condition with race and equity criteria for the neighborhood to drive services to underserved residents. “It has kind of exceeded our wildest expectations,” Flynn said. “When you do something innovative, you can’t predict what will happen. So we refine as go and make course corrections. That in some ways has been the most exciting part.”

## OAKLAND AS A NATIONAL MODEL

Oakland's equity program received national attention from supporters and other jurisdictions. Oakland's status as a pioneer in local cannabis regulation lent intellectual credit to the idea of cannabis equity programs. In addition to the California cities mentioned earlier, states across the nation (including Illinois, Massachusetts, Ohio, Pennsylvania, and Michigan) have also implemented equity programs, though they are generally limited to fee discounts, training, and small permit set-asides. "Cannabis equity became the flavor of the month," Flynn said. "People jumped on the bandwagon but didn't necessarily go through the process that we did. But it doesn't mean they can't get there."

> "When you do something innovative, you can't predict what will happen. So we refine as go and make course corrections. That in some ways has been the most exciting part."

San Francisco's Board of Supervisors created an Office of Cannabis in September 2017 and tasked them with writing an equity analysis report similar to Oakland's. The report found similar historic racial disparities in arrest for cannabis. San Francisco capped the total number of permits available but restricted the first half of all permits to equity applicants, equity incubators, cannabis businesses that already existed in 2017, or those that operated a medical cannabis business that was forced to close due to federal pressure. All other applicants can apply after the first half of the permits have been issued.

While this has a similar structure to Oakland's equity program, allowing businesses that previously existed early access somewhat defeats the purpose. It is likely that many of them were not owned by people of color, as is true in other cities. Including them in the initial allocation of half the permits can dilute the impact on entrepreneurs of color. Additionally, despite San Francisco's greater level of resources, the rollout of the new permits has been quite slow. The average equity applicant can expect to wait 18-24 months before being permitted due to the lengthy interdepartmental review process and backlog.[18] Mayor London Breed proposed to add two new staffers to the department in June 2019 to deal with this backlog. The San Francisco Controller's Office recommends creating a priority permitting process for equity applicants in departments like planning, police, and building inspection.

## UNINTENDED CONSEQUENCES OF A CANNABIS ECONOMY

The cannabis economy in Oakland is an active new economic sector, bringing in almost $14 million in tax funds to city coffers and creating hundreds of new businesses and new jobs.[19] Integrating a relatively new sector of this size into an existing local economy can present challenges, particularly around land use. There have been increasing concerns raised about the potential for cannabis businesses to displace artist live/work spaces that have flourished in Oakland over the last few decades. In March 2018, Mayor Schaaf successfully sponsored legislation to prohibit cannabis businesses from occupying a building that was previously used as live/work space for artists. While this policy is helpful in some situations, it can only apply to properties zoned as residential even though many informal artist residents are in non-residential buildings.

## RESTRUCTURING OAKLAND'S CANNABIS TAX SYSTEM TO PROMOTE EQUITY GOING FORWARD

Given that the cannabis equity permitting system was lifted once the equity fund goals were met, the City of Oakland must pursue other options for supporting existing and future equity businesses. Of the levers available to the city, tax policy is perhaps the most impactful. Oakland set tax rates for recreational cannabis in 2010, before adult use was even legalized in California. At the time, this was seen as a forward-thinking move that positioned the city well to reap the potential benefits of legalized recreational cannabis, which was on the statewide ballot that same year. Although recreational use failed, the tax measure was structured in such a way that the council did not have discretion to alter the 10 percent tax rate it set. After recreational cannabis was legalized in 2016, Oakland's tax system became additionally problematic when neighboring jurisdictions passed lower rates that put Oakland at a disadvantage. The State of California also imposed a 15 percent excise tax on recreational sales, putting the total tax rate on the sale of adult-use cannabis in Oakland at a staggering 25 percent—a rate high enough to keep much of the cannabis economy underground. A high tax rate disproportionately impacts cannabis entrepreneurs of color who already face the systemic and historical disadvantages described earlier.

In 2018, a measure to give City Council the discretion to change cannabis tax rates passed with 80 percent support from the voters. While the measure did not dictate specific tax rates, after passage Councilmembers Kalb and Kaplan proposed to lower taxes to as low as 0.12 percent depending on the size and sector of the cannabis business.[20] Budget staff estimated this would cost the city $9.1 million per year in lost tax revenue. Without requiring that further equity components be included, this massive tax reduction would relinquish the City's largest bargaining tool for impacting the cannabis industry without creating increased opportunities for equity.

To maintain its position as a leading innovator on the cannabis industry and equity, the City of Oakland should use the tax system to reward businesses that work toward its equity goals. Councilmember Loren Taylor, who defeated Councilmember Brooks in 2018, was the first to raise the idea of an equity-based tax structure in response to the Kaplan and Kalb proposal. After months of debate, the Council lowered the tax rate in December 2019 for all equity businesses with gross receipts under $1.5 million to 0.12 percent per year. It also created a phased-in system that lowered the tax rates for non-equity businesses and larger equity businesses to between 2.5 and 5 percent for non-equity businesses by 2022 depending on the size and sector of the business. Non-equity businesses can receive 0.5 percent rebates for equity activities such as incubating an equity business, local hiring, equity supply chain contractors, and workforce quality of life. However, businesses are limited in the number and frequency of rebates they can receive and still must pay a minimum tax rate of 2.5 percent in 2022. Most business tax classifications in Oakland pay below 2 percent per year. Cannabis businesses assessed at 2.5 percent will pay the highest business tax rate in Oakland, followed by the classification for "Firearms Dealers" that pay 2.4 percent.[21]

The City of Oakland should waive business taxes and permit fees entirely for equity businesses in all market segments and revenue levels and provide greater incentives to non-equity businesses via tax rebates to further equity goals. The 0.5 percent discount per equity activity is likely not enough of an incentive to yield the desired outcomes, especially since it is still capped at a relatively high rate.The values that originated the equity program and the Department of Race and Equity hold true regardless of the size or level of success of the equity business. While this proposal would likely face pushback from the city budget staff and other business, it is worth it to further the goals of the equity program. As outlined previously, Oakland's equity program only succeeded in the sense that it increased equity in the initial permitting phase of the cannabis boom — after that, the equity program's reach is limited to revolving loans and business assistance. An equity-based tax structure is critical to extending equity goals through the life cycle of businesses.

Further steps should also be taken to set aside cannabis tax revenue from non-equity businesses to invest in City services and programs that promote equity. This could be anything from dedicated funding for the Department of Race and Equity to community grant programs. Funding should also support workforce development programs in the cannabis sector for populations meeting the equity requirements. There are significant opportunities for employment in the industry, with the retail and distribution sectors having particularly high job creation potential. A formalized job training program for cannabis would benefit businesses looking for skilled workers as well as further equity goals. Due to Oakland's success in securing $4.6 million over two years in state equity funds, there are additional opportunities to expand Oakland's equity permits to include more grants for equity applicants' startup and ongoing costs, additional technical and legal assistance programs, and/or leasing commercial kitchens for equity manufacturers. Oakland should also conduct a follow-up equity analysis on the cannabis economy to assess how the industry is operating in the real world and provide recommendations for addressing any resulting inequities.

"It's Oakland and it's cannabis. It's part of our counterculture," Flynn said. "It's never been weird to talk about cannabis here whereas other cities only talked about it in terms of enforcement. We picked up that ball and innovated the equity program. There is a clear governmental role here. Capitalism or the private sector won't support it - it's not their job. If the market was going to create it, it would have already. But there is too much structural racism."

## ENDNOTES

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3. Interview, Assistant to the City Administrator Greg Minor, December 10, 2019.

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8. This number includes applications for multiple uses (cultivation, distribution, etc) from single applicants so overstates the total number of discrete applicants

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10. Minor, Greg “Agenda for Cannabis Regulatory Commission” Nov. 7, 2019

11. Note that there are more cannabis businesses operating in Oakland but these numbers depict those who have applied to the state for their license.

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# ENCOURAGING BREASTFEEDING WITH UNIVERSAL MATERNAL LEAVE

by Marie Salem

# ENCOURAGING BREASTFEEDING WITH UNIVERSAL MATERNAL LEAVE

MARIE SALEM

Edited by: Anna Garfink, Reyna McKinnon, and Annelise Osterberg

*It is well established in the literature that breastfeeding improves infant health, maternal health, and overall societal health and economics, but there are numerous barriers involving work, time, stigma and education that mothers face. Not only does the U.S. have one of the lowest breastfeeding rates among high-income countries, but the U.S. is also the only high-income country that does not guarantee paid maternity leave. Case studies show paid maternity leave is associated with an increase in breastfeeding. The U.S. can enable women to breastfeed more by passing maternity leave legislation. Such laws will support maternal and child health, which will have compounding positive effects on society. The United States should mandate six weeks of universal paid maternity leave at partial pay in order to improve breastfeeding rates, health, and productivity and avoid excluding mothers who are unable to take unpaid leave.*

## INTRODUCTION

There is no dispute in the literature that breastfeeding is beneficial for an infant's nutrition and for the mother herself. Breast milk is the most complete form of nutrition for infants, matching all nutritional requirements for growth and development, including colostrum, which formula excludes.[1] Breastfeeding is very effective at preventing mortality in children under five because of its immunological benefits (protective cells, binding proteins, enzymes) and decreases the risk of acute diseases and chronic childhood diseases.[2] The mother also gains a variety of benefits from breastfeeding, including cost savings, self-confidence, infant bonding, lower risk of ovarian and breast cancer, and reduced fertility.[3] Further, mothers benefit from the release of oxytocin during lactation, which has been associated with a decrease in maternal postpartum bleeding, a decrease in anxiety and stress,[4] a decrease in postpartum depression,[5] an increase in positive social interaction,[6] and helps the uterus return to its normal size.[7]

### BREASTFEEDING BARRIERS AND DISPARITIES

Despite the immense positive outcomes associated with breastfeeding, rates are low in comparison to medical recommendations. The World Health Organization (WHO) recommends babies breastfeed for six months exclusively (nothing other than breastmilk), and partially breastfeed alongside complementary food until age two. However, nationally only 20 percent of mothers exclusively breastfeed for six months and 27.8 percent of mothers partially breastfeed until two years of age.[8]

A few factors contribute to overall low national rates including individual, physical, social, political and economic barriers. Individual barriers can include discomfort while breastfeeding, postpartum depression, concern about ability to breastfeed, and initial struggle to produce.[9] Although physical barriers to breastfeeding are rare, many women fear personal physical complications such as HIV and malnourishment will prevent them from being able to breastfeed.[10] The World Health Organization recommends that women with HIV still breastfeed because the benefits outweigh the risk of transmission and women can only not produce breastmilk in the most extreme cases of malnourishment.[11] Both of these issues are rarer in the United States, however fear can still lead to lower breastfeeding rates. In terms of social barriers, there remains a stigma around breastfeeding in public due to the sexualization of breasts. Evidence shows that self-objectification attitudes influence whether a woman thinks breastfeeding in public will lead to embarrassment and indecency, an idea generated by destructive influences of society on women.[12] These social barriers help explain the lack of social support and education at the community and household levels.

The economic and political barriers to breastfeeding are greatly intertwined and thus policies should act to address both. Time constraints, inadequate work environments, public indecency laws, parental leave laws and formula marketing all contribute to low breastfeeding rates in the U.S. Specifically, low-income mothers have cited time constraints and returning back to work as the largest barrier to breastfeeding.[13] Therefore, mothers who have the luxury to take unpaid maternity leave or work in well-resourced environments have increased abilities to breastfeed their children or pump breastmilk at work. This inequity can lead to more health disparities for the children, further perpetuating a cycle of poor health and poverty for certain populations. Laws that protect women in the workplace from public indecency laws are extremely limited and will be discussed in a future section. Lastly, the U.S. is one of six countries that has not adopted any part of the UN's International Code of Marketing Breastmilk Substitutes.[14] Formula companies are criticized for marketing to low-income mothers and offering free samples, which can cause a dependence on formula. A mother's breast milk production dries up and decreases after extended amount of time away from breastfeeding, therefore making it biologically harder to breastfeed after using formula and once the free samples end.[15]

> Despite the immense positive outcomes associated with breastfeeding, rates are low [in the United States] in comparison to medical recommendations.

There are disparities in breastfeeding rates between different racial and socio-economic groups in the U.S. For instance, only 64.3 percent of black mothers start breastfeeding, compared to 81.5 percent of their white counterparts. Additionally, 14 percent of black mothers exclusively breastfeed through six months compared to 22.5 percent of white mothers. Socio-economic status certainly affects barriers to breastfeeding; however, certain barriers are experienced disproportionately by black women. Evidence shows that earlier return to work, inadequate receipt of breastfeeding information from providers and lack of access to professional breastfeeding support specifically affect black breastfeeding rates in the U.S.[16] Issues relating to implicit bias amongst health care professionals can cause inadequate care and support for black mothers in pregnancy, post-partum and general health care.[17]

## U.S. MATERNITY LEAVE: THE GLOBAL CONTEXT

Paid maternity leave does not directly address implicit bias, but it has the potential to decrease these disparities and support women in breastfeeding by increasing time with the child and decreasing stress about losing work hours and income. Unfortunately, the U.S. has one of the most limited maternity leave policies in the world, and also one of the lowest breastfeeding rates as compared to other OECD countries (Organization for Economic Cooperation and Development), which are essentially high and middle-income countries. The U.S. ranks 26th out of 30 OECD countries for the percentage of children who have ever been breastfed, and 21st out of 24 for the percentage of children who are exclusively breastfed for six months.[18] Out of the 193 United Nations member nations, the U.S. is one of only four countries that does not guarantee paid maternity leave (the others being Swaziland, Papua New Guinea, and Liberia) despite being one of the wealthiest nations in the world.[19] By 1994, all western European countries offered at least 10 weeks of paid maternity leave, ranging from between 25 to 100 percent of a mother's salary. Norway, which has the highest 'ever been' breastfed rate in the world, guarantees mothers 46 weeks of maternity leave at 100 percent of salary.[20]

The U.S., however, has not changed its federal maternity leave law for decades. In 1993, the Family and Medical Leave Act (FMLA) was passed, guaranteeing mothers up to 12 weeks of unpaid maternity leave. Eligibility requirements include the following: mothers must have worked under their current employer for at least 1,250 hours in the past 12 months, and the employer must have 50 or more employees.[21] States are allowed to pass different requirements regarding the number of weeks and pay, however only four states – California, New Jersey, New York, and Rhode Island – provide paid maternity leave.[22] One of the largest issues with unpaid leave is that it only supports mothers who can afford to take time off of work, which exacerbates already existing health and well-being disparities for low-income and single mothers. Paid maternity leave can be costly for the government and employers; however, an infant's health and savings on health care costs must be considered.

## EXAMPLES OF MATERNITY LEAVE POLICIES

Research indicates that breastfeeding rates increase in countries that offer extended paid maternity leave. For instance, Canada, a country with relatively similar demographics to the U.S., experienced an increase in breastfeeding rates after the passage of extended paid maternity leave. In 2000, Canada's provinces extended paid maternity leave from an average of six months to at least one year. The new law was associated with a 40 percent increase in exclusive breastfeeding for six months. [23]

European countries also show positive associations between increasing maternity leave and increasing breastfeeding rates. Spain originally allowed 12 weeks of paid maternity leave, and in 1989 expanded their policy to allow for one year of unpaid maternity leave with job security. The change was associated with an increase in exclusive breastfeeding duration for mothers who took the long unpaid maternity leave compared to the women who just took the short paid maternity leave, however only by one half of a month.[24] This indicates that increasing unpaid maternity leave might not produce a significant increase in breastfeeding rates, given that many mothers cannot afford to take unpaid leave.

The United Kingdom in 2003 expanded its paid maternity leave at a flat rate. Mothers in the UK now have paid leave for 39 weeks, with 90 percent of the salary for the first six weeks and a paid flat rate for another 33 weeks.[25] After the policy change, a large cohort study with over 6,000 mothers in the UK showed evidence that the longer leave a mother took , the more likely she was to breastfeed her child for at least four months. In addition there was a 0.86 increased risk of mothers being less likely to breastfeed for four months if they specifically needed to return to work for financial reasons. [26] Following the same UK law change, a study in Scotland showed that returning to work earlier was associated with early breastfeeding cessation[27], and a study in Ireland showed that mothers who took between six and 12 months of maternity leave (as opposed to up to six months) had higher breastfeeding rates.[28] In addition, Thailand, Ghana, Brazil, Jordan, Turkey, China, Myanmar, Malaysia, and countries from every continent have produced studies in the literature in support of the association between extended paid leave and increased breastfeeding rates.[29]

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The literature on the effect of maternity leave on breastfeeding rates in the United States is limited due to the U.S.'s limited maternity leave laws, although a few studies show positive correlation between unpaid leave and breastfeeding rates. However, this is in mostly higher income and white populations. The non-diverse study population shows that unpaid leave and the U.S.'s FMLA policy does not support a large population in the U.S. - specifically, it is leaving out low-income and single mothers.

There is one study examining California's maternity leave policy and the change in breastfeeding rates after California became the first state in the U.S. to implement a paid maternity leave policy in 2004. The law allowed mothers to take up to six weeks of maternity leave at 55 percent of their pay, a good first step, but still significantly less than other countries. A cohort study looked at mothers before the policy and after the policy and determined a three to five percent increase for exclusive breastfeeding, and a 10 to 20 percent increase for breastfeeding duration. These are promising results that highlight the potential impact of longer paid leave policies. However, six weeks of about half of pay is still very limiting and often does not support lower income mothers,[30] which demonstrates the importance of higher income replacement in a robust paid leave policy.

Six weeks is the average time of California, New York, Rhode Island, and New Jersey's current paid maternity leave laws, which are the only states in the U.S. to guarantee paid leave.

## MATERNITY LEAVE AND CHILD HEALTH OUTCOMES

Maternity leave also has health benefits in addition to the health benefits that stem from increased breastfeeding rates. Cross-national longitudinal studies involving different OECD countries have found that longer maternity leave laws are significantly associated with lower infant and child mortality, controlling for many factors.[31] A 10 week maternity leave extension in OECD countries was significantly associated with a 2.59 percent decrease in infant mortality, a 4.06 percent decrease in post-neonatal mortality, and a 3.02 percent decrease in child mortality rates. [32] Furthermore, the U.S. - which has no national paid leave policy - has the highest infant mortality rate amongst all high-income countries. Therefore, a national paid maternal leave policy would be a step to addressing infant mortality. Additionally, maternity leave before birth is associated with lower preterm, early term, and low birth weight births.[33] Unpaid maternity leave in the U.S. is also associated with normal birth weight, on time births, and decreases of infant mortality. However, these positive effects were mostly only among higher income mothers who could take unpaid leave, therefore creating further health disparities.[34] Paid maternity leave would alleviate these disparities between higher-income and lower-income mothers and their children.

## POLICY PROPOSAL

The United States should implement a six week maternity leave law with partial pay based on an income sliding scale called the Federal Paid Parental Leave Act (FPPLA). This policy is an appropriate starting point that is politically feasible, will bring the U.S. closer to other OECD maternity leave laws, and will comply with the International Labor Organization recommendations. This law provides mothers with their rightful time to bond with their child after birth and has the potential to increase breastfeeding rates, improve infant health, and decrease adverse health outcomes for children later in life.

Six weeks is the average time of California, New York, Rhode Island, and New Jersey's current paid maternity leave laws, which are the only states in the U.S. to guarantee paid leave.[35] Although this is significantly less time than the number of weeks other OECD countries offer, this is the most reasonable and feasible for the

U.S. currently. The International Labor Organization specifies that the benefits of maternity leave should be no less than two-thirds of the mother's current pay, which is why the proposed policy is based at 66 percent of pay.[36]

It is recommended that the paid maternity leave is conducted on an income sliding scale in order to account for the varying income levels in the country. All mothers will be guaranteed 66 percent of their pay; mothers below 185 percent of the Federal Poverty Line (FPL) will receive 80 percent of their pay; and mothers below 100 percent of FPL will receive 90 percent of their pay. The income sliding scale is crucial to avoid leaving out low-income mothers who cannot afford to take large pay cuts during leave. Further, 185 percent of FPL is a common measure used in WIC, Head Start, CHIP, and many other governmental programs in order to address the gap between the set federal poverty line and varying costs of living throughout the country.[37] Evidence shows that a wage replacement of at least 80 percent is necessary to keep families out of poverty, and therefore low-income mothers must have at least this percentage in any proposal.[38] A major problem reported from California's Paid Family Leave law, which only differs between 55-70 percent of pay based on income, was that the lowest income mothers still could not afford to take pay cuts. One third of respondents from a policy evaluation study indicated that they knew about the paid maternity leave law but did not take it because the wage replacement was too low.[39]

The eligibility criteria for this policy is as follows: the mother must have worked for the employer for a total of 12 weeks in the last year. This criteria is modeled after the U.S.'s FMLA. Although this has the possibility to restrict mothers who started a job more recently, employers will be less likely to discriminate against pregnant mothers by not hiring those who are far along in their pregnancy. If there was no limit to how long a mother had to work at the job, employers could feel more inclined to not hire someone who is far along in their pregnancy, knowing that they could go on paid maternity leave shortly after being hired.

For the purpose of infant health benefits and breastfeeding, the proposal is only focused on maternity leave rather than leave for both parents. However, one partner from same sex relationships and one partner of an adopted child will have the same access to this proposal. Each aspect of this policy proposal is rooted in evidence, at the suggestion of international agencies, and modeled after other countries' paid leave laws.

## ECONOMIC FEASIBILITY

Although the exact requirements are not the same as other OECD countries due to the differences in the social and political context, the finances of FPPLA can be modeled after OECD countries because of the similar economic statuses of the U.S. and the other OECD countries (high and middle income countries under an economic cooperation). A review of all OECD countries' maternity leave laws found that the most compatible way to finance leave for a "strong national economy" is through social security schemes.[40] No OECD country finances maternity leave solely by employers, and in fact 33 out of 36 countries provide the total amount of leave payments through the government's social security or public funds.

There are many ways to finance this policy proposal, however the best option is through the Social Security Disability Insurance Programs. Social security is a well-liked program that benefits all working retirees, and although not everyone will directly get the money from paid maternity leave, more productive mothers, healthier mothers, and healthier infants help the economy and workforce as a whole. Employers would be required to withhold a small payroll tax from their employees, that they too are required to match as employers, similar to Social Security and Medicare. By dividing the cost between employees and employers, the costs remain low and employees are more likely to agree with the tax, and employers are less likely to cost shift and lower wages.[41]

According to a Pew Research Center report from 2016, 82 percent of people say that mothers should have paid maternity leave and 69 percent of people say that fathers should have paid paternity leave.

A common argument made against paid maternity leave is that it will be economically infeasible for businesses, and specifically small businesses will be disproportionately negatively affected. FPPLA does not include criteria regarding a minimum number of employees for an establishment to have in order to comply with the mandated maternity leave law, unlike other mandates such as ACA's Fair Labor Standards Act and Employer Mandated Health Insurance which only applies to 50 or more employee establishments. These criteria are put in place to not overly burden small businesses, however, unlike the other laws, FPPLA is not paid for by the employers solely. Furthermore, adding the criteria of allowing small businesses to opt out of the law might dissuade mothers from wanting to work for small businesses in the first place. Additionally, the review of California's law showed that small businesses were less likely than larger establishments to report any negative effects.[42] No OECD countries completely deny paid parental leave based on employee size, and neither should the U.S.

## POLITICAL FEASIBILITY

This proposal is politically feasible to pass through the U.S. Congress. Although six weeks of paid maternity leave is significantly less than what all other OECD countries offer, it is a crucial first step to parental leave policy in the U.S. The lowest number of weeks that an OECD countries provides paid maternity leave is 12 weeks, which suggests it would be politically and economically feasible to pass a law for six weeks.[43] Although critics who say six weeks is still not enough time have merit, the fact that only four states out of 50 have paid leave for six weeks, suggests the U.S. would not be able to feasibly pass a law that mandates more than six weeks with bipartisan support.

Paid maternity leave also has significant public support, and at times, bi-partisan support in the U.S. According to a Pew Research Center report from 2016, 82 percent of people say that mothers should have paid maternity leave and 69 percent of people say that fathers should have paid paternity leave.[44] In addition, politicians from both political parties have been outwardly in favor of paid parental leave. Democrats have been working on paid parental leave for over a decade, and four republican senators have announced similar laws in the past two years.[45] There is also evidence of support from the current Administration and President Trump has declared this as a bi-partisan issue.[46]

> Research suggests that six weeks is an adequate amount of time for health benefits to manifest... These positive health effects could not only benefit the infant and immediate family, but also offer socio and economic benefits for all of society.

There are other policy alternatives that have attempted or could attempt to address the issue of low breastfeeding rates in the U.S. As previously mentioned, the Affordable Care Act amended the Fair Labor Standards Act to require employers to provide a place for women to express breastmilk other than a bathroom.[47] This policy, however, is limiting because it only applies to non-exempt workers excluding salaried workers and smaller businesses can opt out if it is too inconvenient. The law also gives no specifications about what type of space it can be other than a non-bathroom, leaving lots of room for interpretation and low regulation.

Exemption from indecency laws, or laws protecting breastfeeding/pumping in public, while essential first steps, are not strong enough to completely change stigma or make women feel completely comfortable breastfeeding. They are also limited because they refer to non-work hours.[48] Lastly, there are global attempts to limit formula marketing due to past unethical targeting and promotion. The UN's International Code on Breastmilk Substitutes Marketing is only effective in countries which pass individual legislation, and this law seems politically unfeasible in the U.S. In 2018, under the direction of the Trump Administration, the U.S. delegation tried to remove the World Health Assembly's language around "promoting breastfeeding" and embrace the interests of the infant formula companies.[49] Many laws around the world and specifically in the U.S. provide strong attempts to increase breastfeeding rates, however, a maternity leave policy is able to address many of the downfalls mentioned above.

## THE INFANT HEALTH AND SOCIAL BENEFITS OF SIX WEEK LEAVE

As discussed above, there is a large body of evidence that positively associates paid maternity leave with increased breastfeeding. Research suggests that six weeks is an adequate amount of time for health benefits to manifest because of the following reasons: The first week of breastfeeding provides colostrum to the baby, which acts as an immunization, stabilizes blood sugar, kickstarts the infant's digestive system, and cannot be artificially produced in formula.[50] At four weeks of breastfeeding, the infant's immune system has significantly been built up and this will protect against food and respiratory allergies later in life.[51] At six weeks the baby will be at lower risk of childhood chest infection.[52] In addition, breastfeeding is associated with lower risks of developing chronic childhood diseases including celiac disease, inflammatory bowel disease, neuroblastoma, asthma, allergies, and infections[53] and literature associates breastfeeding with a small reduction in risk of being overweight and obese.[54]

These positive health effects could not only benefit the infant and immediate family, but also offer socio and economic benefits for all of society. For every 1000 never-breastfed children, there were 2033 more sick care visits, 212 days of hospitalization, and 609 more prescriptions in comparison to breastfed children due specifically to lower respiratory tract illness, otitis media, and gastrointestinal disease.[55] Specific to governmental costs, breastfed WIC infants had $175 lower Medicaid costs per 5 months compared to non-breastfed WIC infants, which displays the direct potential of savings breastfeeding and maternity leave can produce for the government and tax payers.[56] Additionally, it is estimated that about 13 percent of families with a newborn become poor within the first month, but a positive income during leave could boost economic security.[57]

In addition to the economic benefits from public health prevention measures, paid leave has other business, economic, and productivity benefits to society. One main argument discussed against paid maternity leave is that employers and companies will take a hit because they are losing an employee. Although losing an employee for six weeks might be organizationally difficult, mothers will be happier and more productive, miss less work in the future, and the employer will not have to pay for the leave. One study showed that the rate mothers had to miss work to care for their infant was two-thirds lower in breastfeeding mothers compared to non-breastfeeding mothers, which is directly associated with the length of maternity leave.[58] Women are also shown to return back to work nine to 12 months after birth at higher rates than women who do not take paid or unpaid leave, showing a benefit for the employers themselves who enjoy less turnover.[59] Studies analyzing businesses in the U.S. that have paid maternity leave have found that the majority of employers did not experience increased costs, a majority of employers reported a "positive effect" or "no noticeable effect" on productivity, and businesses were not economically hurt.[60] Specifically with California's Paid Parental Leave policy, a review found that the policy had "minimal impact on business operations" and covering the work of employees on leave was not a large burden.[61] Creating a space of respect and understanding for a family after birth has the potential to increase good morale and productivity at work in the future. Although this policy is a first step and specifically targeted to paid maternity leave for breastfeeding and health purposes, these overall economic benefits show that paid parental leave for fathers or other identifying parents could also be very beneficial.

## CONCLUSION

The U.S. is one of four countries in the world without paid maternity leave, and the only high-income country that does not guarantee pay. The U.S. also has some of the lowest breastfeeding rates amongst high-income countries, therefore showing a possible correlation between maternity leave and breastfeeding rates. Although there are numerous barriers to breastfeeding, paid maternity leave is a good first step to increase breastfeeding rates, especially for mothers who cannot afford to take unpaid leave. Not only does breastfeeding have proven health benefits, but it also has direct medical costs savings. Investing in paid maternity leave to improve health outcomes is a necessary step that not only helps mothers and their children, but also society, the economy, and the government.

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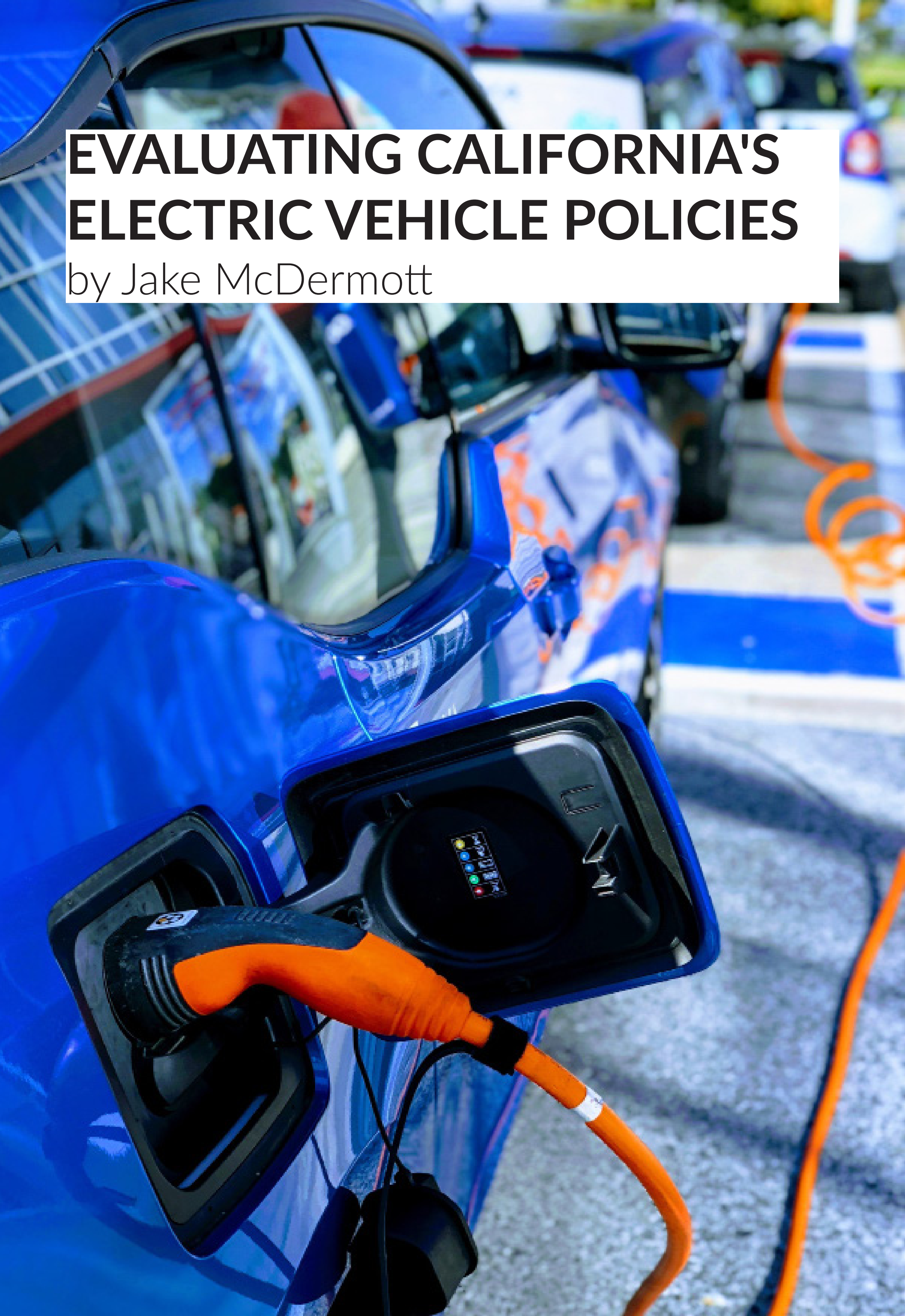
# EVALUATING CALIFORNIA'S ELECTRIC VEHICLE POLICIES

by Jake McDermott



# EVALUATING CALIFORNIA'S ELECTRIC VEHICLE POLICIES

JAKE MCDERMOTT

Edited by: Randy Clopton, Althea Lyness-Fernandez, and Fiona McBride

*This paper collects, summarizes, scores, and analyzes the electric vehicle policies of California, Massachusetts, and New York. Examining three different jurisdictions illuminates how state policy impacts the relative success of an electric vehicle market. The National Association of State Energy Officials (NASEO) have developed a useful rubric that offers a framework for scoring these states' policies. The rubric allows users to score electric vehicle policy along several different metrics including upfront purchase incentives, subsidies for charging stations, and statewide commitments to vehicle electrification. Through the scoring process, I then propose that California shift how it implements its electric vehicle policies, in particular by restructuring its subsidies to provide drivers an upfront point-of-sale rebate rather than rebate-by-mail.*

## INTRODUCTION

### TRANSPORTATION ELECTRIFICATION TO REDUCE GREENHOUSE GASES

The recent Intergovernmental Panel on Climate Change's (IPCC's) Special Report on Global Warming showed that limiting global temperature rise to 1.5°C will require "rapid and far reaching" transformations in land use, energy, cities, and transportation.[1] To meet this urgent imperative, former California Governor Jerry Brown signed SB 100 into law in September 2018.[2] SB 100 increases the state's renewable portfolio standard (RPS) to 60 percent by 2030 and requires that 100 percent of all retail electricity originate from eligible RPS or zero-carbon resources by 2045. The RPS requires that utilities and other load-serving entities provide an annually increasing percentage of their energy from renewable resources. While California has made progress in implementing SB 100 and will make additional advancements in decarbonizing its electricity sector, the state must make further strides to reduce its greenhouse gas emissions. The electrification of transportation will be a key piece of the carbon reduction puzzle. It is in the state's best interest to understand the impact that its electric vehicle (EV) policies have had on the state-wide market. It is also necessary to compare California's electric vehicle policies with that of other states in an effort to evaluate existing programs and to recommend further improvements.

In November 2018, the California Air Resources Board (CARB) issued a progress report with stark findings: California is not on track to meet its legislatively mandated climate goals. In fact, while the report recognizes that the state will achieve its 2020 climate goals through reductions in greenhouse gas emissions from the electric power sector, it also indicates a net increase in transportation emissions. Even if EV sales grow enormously over the next 12 years, the state would still need to reduce vehicle miles traveled (VMT) to meet 2030 goals. Neither electrification nor reductions in miles traveled alone will suffice for the state to reach its goals; California will need to rely on both.

California's path forward has the potential to serve as a blueprint for other emissions reduction policies in other states. While California's EV policy is strong measured across many indicators, particularly in comparison to other jurisdictions, there is still great opportunity for improvement, especially if the state is to lead the way for others. To that end, California should:

1. Reform its upfront vehicle purchase incentive, including how the incentive is applied and how annual funding is allocated;
2. Reform electric vehicle infrastructure funding programs to allow third party developers to understand with certainty the annual levels of funding; and
3. Improve upon its existing customer education resources like the DriveClean Buying Guide.

## CALIFORNIA LEADS THE WAY IN ELECTRIC VEHICLE POLICY

### CALIFORNIA PROGRAMS

California has made substantial progress in driving EV-forward programs through three central agencies: the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and CARB. Analyzing these programs and state-level policy commitments, alongside other state's EV policy, provides insights into California's progress to date as well as future opportunities for improvement. .

The Low Carbon Fuel Standard (LCFC) through CARB provides EV drivers with credits for using "low carbon fuel" (i.e., electricity). Investor Owned Utilities (IOUs) receive the credits on behalf of drivers using their meters and sell them on the market. Part of the revenues are then given back to drivers in the form of a rebate. Annual rebates can range from $200 to $500. As a result of the enactment of SB 350 in 2015[3], IOUs must now file transportation electrification proposals with the CPUC. The initial proposals included 15 pilot projects intended to electrify transportation of buses, trucks, and other transit vehicles in historically disadvantaged communities. A second round of proposals approved SDG&E to install up to 60,000 chargers at single family or multi-unit dwellings and PG&E to install "make ready" infrastructure for the eventual deployment of 234 fast charge stations. The CPUC also approved a new EV charging rate for the state's smaller utilities to pilot.[4]

CARB offers the Clean Vehicle Rebate Project (CVRP)[5], which provides rebates of up to $7,000 ($9,000 for low-income drivers) for the purchase or lease of new zero-emissions vehicles (EVs or fuel cell vehicles). Approximately 75 percent of eligible vehicles sold or leased within the first five years of the program have taken advantage of the purchase incentive. Since 2010, over 250,000 eligible vehicles received a rebate through the program. Each year, CARB undergoes a public input process which informs the annual budget for the CVRP.[6] This annual budget process also determines the annual funding levels for other programs offered by CARB. CARB offers a similar CVRP for public fleets[7] and hosts the Drive Clean[8] guide which helps individuals and organizations find incentives for the purchase or lease of a new EV in California and provides information about incentives for charging infrastructure.

The CEC funds the Electric Vehicle Charging Station Financing Program[9], which provides loans for the installation of EV charging stations. As noted in the section above, the CEC administers the ARFVTP which involves funding opportunities for electric vehicle charging infrastructure.[10]

## OTHER CALIFORNIA INITIATIVES

California's additional commitments to improving EV policy build on these agency programs. In 2016, former Governor Brown issued the Zero Emissions Vehicle (ZEV) Action Plan[11], which serves as a roadmap for how state agencies and the IOUs should plan to meet the state's long-term goals for transportation electrification. The priorities outlined by the report include: consumer awareness and customer education, access to EVs for more Californians, the competitive and commercial viability of other non-traditional transportation sectors, and EV market growth and penetration beyond California. With respect to the light-duty EV market, the plan outlines several long-term strategies needed to advance the market. These include reducing the upfront cost of purchasing or leasing an EV, helping auto dealers promote additional leases and sales, and maintaining existing non-monetary incentives. Regarding upfront costs, the plan recognizes the need to implement a long-term funding plan for the CVRP as the state anticipates total sales will increase. Finally, while non-monetary incentives are important and can help push drivers towards EVs at the margin, they likely will not be as critical for EV adoption as reducing upfront costs, educational awareness, and ensuring adequate charging infrastructure across the state. Even still, the plan discusses maintaining ZEV access to high occupancy vehicle (HOV) lanes and establishing preferential parking policies and discounted fees.

> While California's EV policy is strong, particularly in comparison to other jurisdictions, there is still great opportunity for improvement, especially if the state is to lead the way for others.

California is also one of the original signatories of the Zero-Emissions Vehicle Memorandum of Understanding (ZEV MOU), a signed agreement between several states to incentivize the purchase or lease of 3.3 million EVs by 2025 and provide incentives to ensure that charging infrastructure is deployed. As a party to the ZEV MOU, California has committed to getting 1.5 million EVs on the road by 2025, 5 million EVs on the road by 2030, and 250,000 charging stations by 2025. Through the MOU, the states have agreed to create and participate in a task force to coordinate on reaching the collective EV goals and building out the charging infrastructure needed to support this transition.

Finally, California is a recipient of settlement funding from the 2015 Volkswagen Emissions Fraud Settlement.[12] The implementation of the $432 million from the Environmental Mitigation Trust is administered by CARB. Funding is meant to mitigate the nitrogen oxide (NOx) emissions resulting from Volkswagen's usage of a "defeat device" in certain diesel vehicles. Funds can be used on a variety of projects initially outlined in the settlement consent decree.[13] Eligible actions including the repowering, replacement, or electrification of medium and heavy duty vehicles and associated infrastructure.

Taken as a whole, Massachusetts has a broad but shallow set of policies that incentive the transition to EVs.

## PROGRAMS IN MASSACHUSETTS AND NEW YORK

Both Massachusetts and New York have pursued their own bold energy and environmental programs. California may be able to learn from the successes of these states as it looks to improve its own policies and programs.

### Massachusetts

Taken as a whole, Massachusetts has a broad but shallow set of policies that incentivize the transition to EVs. The policies cover a range of areas including upfront financial incentives, incentives for the buildout of electric vehicle infrastructure, and a long-term goal of putting 300,000 EVs on the road by 2025.

The Massachusetts Offers Rebates for Electric Vehicles (MOR-EV)[14] program provides rebates of up to $1,500 for the purchase or lease of light-duty electric vehicles. The program is funded by the Department of Energy Resources (DOER). The Massachusetts Department of Environmental Protection (DEP) offers the Massachusetts Electric Vehicle Incentive Program (MassEVIP)[15], an open grant that provides funding for employers to install charging stations. DEP will provide 50 percent of the installation cost (up to $25,000 total) for hardware related costs. DEP also offers an additional program, the MassEVIP Fleets Incentive[16] which provides incentives for municipalities, state agencies, and public colleges to electrify their fleets by reducing the upfront cost of an EV and an incentive for installing certain charging stations. Massachusetts is another of the initial 9 signatories of the Multi-State ZEV Task Force[17] and has committed attaining 300,000 EVs by 2025.

Massachusetts has also received $75 million in settlement funds through the 2015 Volkswagen emissions fraud case, which it has invested in electrifying transportation. In Year 1, MA DEP intends to use the funding to purchase electric transit buses and expand EV charging infrastructure, among other goals.

### New York

New York has similar policies to Massachusetts and California. The New York State Energy Research and Development Authority (NYSERDA) is a state level executive agency that is responsible for the implementation of many of New York's policies. Charge NY is an ongoing effort by NYSERDA in partnership with the New York Power Authority (NYPA), and the NY Department of Environmental Conservation (DEC)[18]. Charge NY acts as a platform to explore existing rebates and incentives for a wide range of transportation electrification initiatives. Charge NY also includes Governor Cuomo's goal of building at least 10,000 charging stations by 2021. Programs include Drive Electric, which offers an upfront $2,000 rebate for the purchase or lease of EVs through the Drive Clean Rebate, and the New York Truck Voucher Incentive Program (NYT-VIP).[19]

NYSERDA also offers incentives for the installation of EV charging infrastructure.[20] Charge Ready NY offers rebates of $4,000 per port for certain chargers across different use cases.[21] Stations can be sited at public parking structures, workplaces, and multi-unit dwellings . The New York Department of Taxation and Finance also offers a $5,000 tax credit for charging infrastructure.[22]

Like Massachusetts and California, New York is a signatory to the ZEV MOU. Pursuant to the state's participation, New York has set a goal of 843,000 EVs in the state by 2025. Like Massachusetts and California, New York is a party to the Volkswagen emissions fraud settlement. NY DEC issued the final mitigation plan under the settlement which provides funding for a variety of replacement and repower projects.[23] New York has been allocated a total of over $127 million and eligible projects include the electrification of buses and electric vehicle charging stations.

## METHODOLOGY AND EVALUATION

The PEV Policy Evaluation Rubric, issued by the National Association of State Energy Officials (NASEO), offers a tool to evaluate California, Massachusetts, and New York's state-wide vehicle policy.[24] Table 1 shows the scores for each state, broken down by subcategory. The scores indicate that across most sub-categories, each state tends to perform similarly. It is possible that this is a function of relatively aggressive electric vehicle promotion across all three jurisdictions.

While there are several categories that contribute to a jurisdiction's score, the analysis below will only focus on the stark differences in "Vehicle Purchase Incentive." This is due in part to the oversized role that that category plays in overall scoring—30 percent of all possible points—and because of the relatively large differences in each state's performance.

Despite California's $7,000 rebate being much higher than New York's $2,000, California's purchase incentive score is significantly impacted by the type of incentive and the longevity of the funding. The New York Charge NY program was funded upfront by the state, with funds disbursed over time. While there is a set limit in the overall funding levels for Charge NY, drivers do not need to be concerned about the availability of funding for the vast majority of the program length. This gives New York a score of five out of five for longevity. California's CVRP is subjected to an annual budget process whereby CARB determines annual budgets. Other programs like the CVRP often will need to compete with the CVRP for the very limited funding available. The annual budget process provides little to no funding certainty which nets California a score of one out of five for longevity. CARB hosts a website that details the availability of funds,[25] but there is still a large amount of annual funding uncertainty. These scores are not directly awarded to the states but are rather a critical piece of the formula that determines a state's vehicle purchase incentive score. This is also true for the type of incentive.

Charge NY and the CVRP also differ in their incentive structure. Charge NY is an

Table 1: California, Massachusetts, and New York Scores on the PEV Policy Evaluation Rubric

| *Points Possible* | *Policy Sub-Category* | *California (Points Earned)* | *Massachusetts (Points Earned)* | *New York (Points Earned)* |
|---|---|---|---|---|
| **20** | PEV Deployment Targets | 20 | 20 | 20 |
| **5** | Transportation Climate Policy | 5 | 5 | 5 |
| **4** | Non-Financial Incentives | 4 | 2 | 2 |
| **4** | Residential PEV Electricity Rates and Programs | 4 | 4 | 4 |
| **1** | PEV Fees | 1 | 1 | 1 |
| **1** | Other Operational Costs | 1 | 1 | 1 |
| **10** | EVSE Installation | 1 | 1 | 1 |
| **10** | EVSE Operation | 10 | 5 | 5 |
| **2** | PEV and EVSE Planning | 2 | 1 | 1 |
| **2** | PEV-Ready Building Codes and Zoning Ordinances | 1 | 1 | 1 |
| **1** | Streamlined EVSE Permitting | 1 | 1 | 1 |
| **9** | Marketing and Communication | 9 | 4.5 | 4.5 |
| **1** | Fleets | 1 | 1 | 1 |
| **30** | Vehicle Purchase Incentive | 4 | 3.57 | 15 |
| | | **TOTAL** | | |
| **100** | | 63.10 | 45.67 | 57.10 |

incentive applied directly at the time of purchase, while the CVRP is a rebate that is mailed to drivers after they have made their purchase. EV purchasers in New York are able to drive out of a dealership with the incentive directly taken off of the sticker price. According to the CA CVRP frequently asked questions, drivers can wait up to 90 days prior to receiving their check.[26] This is not helpful for many middle or lower income drivers interested in switching to electric vehicles. That $7,000 rebate value (or $9,000 if you are a low-income driver) can be significant for drivers on a fixed income, but not if drivers are unable to immediately access it. New York is given 10 points out of 10 for their type of incentive, while California is given seven points.

## MOVING FORWARD

### ON THE HORIZON

During the summer of 2018, the nine signatory states of the ZEV MOU issued a new multi-state action plan for 2018-2021 which "presents 80 market-enabling action recommendations for states, automakers, dealers, utilities, charging and fueling companies, and other key partners to rapidly accelerate mainstream consumer adoption of zero emission vehicles, including plug-in hybrid, battery electric, and hydrogen fuel cell vehicles."[27] Strategy recommendations fall into one of five categories: consumer education and outreach, charging and hydrogen fueling infrastructure, consumer purchase incentives, light-duty fleets, and dealerships. Given the relative importance of upfront financial incentives in the overall evaluation of state EV policy, it's important to highlight here the overarching strategy and recommendations for states as they relate to consumer purchase incentives. The report outlines three high priority recommendations for the 2018-2021 period: advocating for maintaining the availability of the federal PEV and FCEV tax credits, continuing to provide state-level rebates, tax credits, and tax exemptions while expanding the program to include more low- and moderate-income drivers, and share information with each other on how to sustain predictable funding levels. While the action plan provides additional lower priority recommendations for states, the high priority recommendations above should directly translate into a higher state evaluation score from the NASEO rubric, which should be indicative of overall stronger electric vehicle policy. As could be expected, many of the policy recommendations outlined below closely mirror those from the multi-state action plan. This is evidence of the robustness of the results presented below and of the efficacy of the NASEO rubric; state level jurisdictions do understand the policy levers at their disposal to better create and structure EV markets.

### RECOMMENDATIONS

Several key ideas and trends have emerged from the above evaluation that can help California craft and implement more effective electric vehicle policies. Ultimately, the goal of these policies is to decarbonize the transportation sector by building a stronger and more resilient marketplace. If building a market for EVs is the main method for decarbonizing transportation, the market construct must be customer-focused. The hodgepodge of incentives is confusing and unfriendly for drivers looking to make the switch. While certain programs and policies have visual aids or platforms to educate prospective drivers, the sheer number of state agencies, actors, and programs makes the task daunting. The following recommendations would simplify and enhance California's existing EV policies.

First, California should reform the CVRP to ensure adequate and predictable annual funding and change the rebate from a post-purchase check to a point-of-sale incentive applied directly at the auto dealer. Providing a clear and predictable level of annual funding allows the EV market to function without seemingly random starts and stops in purchasing behavior. The problem with shifting amounts of annual funding is that market behavior (i.e., consumer purchasing decisions incumbent upon access to funding) can become fractured over time. Consider year one, where funding runs out 7 months into the fiscal year. As a result, purchasing decisions essentially fall off completely until the subsidy levels are restored in the following fiscal year. Additionally, a point of sale incentive is a much more effective policy compared to a post-purchase rebate check. Many lower income drivers do not have access to capital that would allow them to essentially front the cost of the subsidy to then get repaid by the state. As noted earlier, the CVRP subsidy is $7,000—no small amount of money for the average prospective buyer to front. Instead, if the CVRP was structured as a point-of-sale rebate, the subsidy would be taken off the sticker price that the purchaser pays. After a sale is registered, the seller could file a form with the state to recoup the subsidy.

> Overall, there is considerable work at the state level that needs to be accomplished if California is serious about meeting its own legislatively-imposed climate goals.

Second, California should use existing marketing platforms and email lists to spread CARB's DriveClean buying guide to any and all interested individuals or organizations. Similarly, ensure that the DriveClean buying guide is the most up to date and authoritative state-wide database for electric vehicle incentives. Customer education remains a top priority for EV market adoption. While many existing educational efforts have focused on getting prospective drivers to test-drive an EV or on the mechanics of re-fueling, understanding the types of subsidies available to drivers and how to take advantage of them remains a challenge. While the CARB DriveClean is already a good resource, it isn't marketed as heavily as it should be. To that end, ensuring that the CEC and CPUC are constantly marketing the guide as the most authoritative guide on buying EVs will ensure that the public is aware of it. Additionally, using other local government partners (i.e., the regional air quality districts or city-wide transit departments) to spread and market the guide will help the information reach a wide range of Californians. While the guide is marketed to prospective drivers, it will be incumbent upon CARB to ensure that the guide is maintained to the highest levels of accuracy and can truly serve as an authoritative and exhaustive purchasing guide.

Finally, California should reform existing EVSE programs to ensure adequate and highly predictable annual funding. California should also ensure that all EVSE programs are included in the DriveClean buying guide and should note which incentives are "stackable" (i.e., which rebates can be combined for one single project or application). Similar to the reforms to the CVRP, third party providers of EV charging infrastructure need to have clarity into annual funding levels for EV charging related subsidies and programs. Additionally, CARB should include a new area on their DriveClean Buying guide on EV charging programs to give third party

Table 2: California Pre and Post Policy Scores on the PEV Policy Evaluation

| *Points Possible* | *Policy Sub-Category* | *California (Points Earned; Pre-Policy)* | *California (Points Earned; Post-Policy)* | *Point Differential* |
|---|---|---|---|---|
| **20** | PEV Deployment Targets | 20 | 20 | 0 |
| **5** | Transportation Climate Policy | 5 | 5 | 0 |
| **4** | Non-Financial Incentives | 4 | 4 | 0 |
| **4** | Residential PEV Electricity Rates and Programs | 4 | 4 | 0 |
| **1** | PEV Fees | 1 | 1 | 0 |
| **1** | Other Operational Costs | 1 | 1 | 0 |
| **10** | EVSE Installation | 1 | 10 | +9 |
| **10** | EVSE Operation | 10 | 10 | 0 |
| **2** | PEV and EVSE Planning | 2 | 2 | 0 |
| **2** | PEV-Ready Building Codes and Zoning Ordinances | 1 | 1 | 0 |
| **1** | Streamlined EVSE Permitting | 1 | 1 | 0 |
| **9** | Marketing and Communication | 9 | 9 | 0 |
| **1** | Fleets | 1 | 1 | 0 |
| **30** | Vehicle Purchase Incentive | 4 | 28.58 | +24.58 |
| | **TOTAL** | | | |
| **100** | | 63.10 | 96.68 | +33.58 |

providers a clear place to search for relevant incentives. Moreover, the state should clearly detail which incentives are stackable to allow providers to build out infrastructure as efficiently as possible.

As seen in Table 2, each of these policy changes will have a positive impact on EV market development in California by ensuring a far greater level of market stability for prospective drivers and for organizations wishing to electrify fleets or install local charging infrastructure. From a quantitative perspective, these recommendations will also have a positive impact on California's NASEO score.

## CONCLUSION

Overall, there is considerable work at the state level that needs to be accomplished if California is serious about meeting its own legislatively-imposed climate goals. California's national and worldwide reputation as an energy and environmental powerhouse means that it often will take the charge in driving forward new, cutting edge policy. California has historically implemented a wide range of EV incentives meant to spur adoption of new EVs and the buildout of much needed charging infrastructure. By using NASEO's rubric and comparing California to Massachusetts and New York, California's strengths and weaknesses in electric vehicle policy become apparent. To take the next step and ensure a robust market for EVs and EV infrastructure, the state would do well to prioritize new legislation and regulatory updates that ensure programs have stable annual funding and feature incentives that are given to customers as soon as logistically possible (i.e., point of sale) to ensure more EV drivers will participate in the market. These policy changes, while crucial, will be insufficient to ensure that the state meets its climate goals. Further research and policy recommendations are needed to understand the best ways to drive down total VMT which can be used to reduce overall state emissions.

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# MITIGATING BLACK MATERNAL MORTALITY

by Angélica Marie Pagán,
Vanessa Quintana, and Jenine Spotnitz

# MITIGATING BLACK MATERNAL MORTALITY

ANGÉLICA MARIE PAGÁN, VANESSA QUINTANA, AND JENINE SPOTNITZ

Edited by: Lisa McCorkell, Annie McDonald, and Sana Satpathy

*Black women are dying at a rate three times higher than that of white women both during and after pregnancy.[1] This state violence against women will persist unless an intersectional analysis is used to parse out and address the root causes of black maternal mortality. This article analyzes the dire issue of black maternal mortality by looking at its racial components, gender components, class components, and the intersections of all three. Through doing so, we are able to recommend solutions that will address the crisis. We recommend that the Department of Health and Human Services: 1) subsidize mental health treatment for black women and low-income communities of color; 2) provide resources to develop community health workers that provide culturally relevant birth support (e.g., doula services); 3) incentivize and regulate the doula industry to be more inclusive of black women; 4) subsidize the cost of doula care and provide free doula services to the most vulnerable women; and 5) improve organizational operations procedures.*

## BLACK MATERNAL MORTALITY CRISIS

The United States has the highest maternal mortality rate among affluent countries in the western world.[2] In comparison to their counterparts in Canada, Australia, New Zealand, and countries throughout Europe, women in the United States report the highest rate of chronic illness, hold the greatest financial burden for health care costs, are the most likely to miss health appointments due to costs, and are the least pleased with their health care.[3] Pregnant women in the United States increasingly have chronic illnesses that increase the risk of pregnancy complications, such as hypertension, diabetes, and cardiovascular disease.[4] Moreover, cardiovascular conditions have steadily increased. Consequently, women in the United States are most prone to complications during pregnancy and childbirth. According to the Centers for Disease Control and Prevention (CDC), the rate of maternal mortality has continuously increased since data started being collected. As of 2016, there were 16.9 maternal deaths per 100,000 live births—a drastic increase from 7.2 deaths in 1987.

Disaggregating the data reveals a grim picture of the appalling racial disparities of the maternal mortality rate. According to the CDC, per 100,000 live births, there were 14.1 deaths among Asian women, 30.4 deaths among Indigenous women, and 42.4 deaths among black women, in comparison to 13.0 deaths among white women. It is imperative to note that Indigenous women have over twice the maternal mortality rate of white women and black women have over three times the maternal mortality rate of white women.

Given the increased complications due to chronic conditions, it is notable that 44 percent of black women over the age of 20 have hypertension.[5] Meanwhile, nearly one in 10 black women are uninsured in the United States.[6] All people of color are in dire health conditions compared to their white counterparts; however, black women fare the worst. As maternal mortality rates continue to rise, it is imperative America reckons with the loss of life that occurs disproportionately in the black community.

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## INTERSECTIONAL ANALYTICAL FRAMEWORK AND BLACK MATERNAL MORTALITY

Kimberlé Crenshaw notes that the mutually exclusive application of race and gender leads to the demise of black women within the contexts of law, feminist theory, and antiracist politics.[7] In order for equitable outcomes to be achieved, she argues that "the single-axis [framework] that distorts [the experience of black women]" and perpetuates discrimination needs to be replaced with a multidimensional analysis.[8] A multidimensional analysis, also referred to as an intersectional analysis, addresses the unique experience of black women that causes them to be vulnerable within a white supremacist patriarchal power structure and is further exacerbated by capitalism for poor, black women.

The issue of black maternal mortality can only be remedied by policies that reflect an intersectional analysis and are informed by both the history of black women dying during pregnancy and childbirth and the lived experience of black women navigating the health care system. This approach draws upon black women's expertise and ensures that their identities are centered in the development of health programming. However, current analyses focus only on the racial aspect of black maternal death and fail to account for the impact of gender as well as the impact of race and gender simultaneously on black women's lives. This single-axis analysis erases black women's identities as racialized and gendered beings both individually and simultaneously, which results in the lack of critical analysis of the black maternal mortality crisis that has been a topic of research and discussion since the 1980s.[9]

## RACE AND MATERNAL MORTALITY

Black women confront the compounding effects of racialized trauma in a white supremacist society. Researchers and doctors increasingly acknowledge the "inescapable atmosphere of societal and systemic racism… [that creates] toxic physiological stress" for black women.[10] This phenomenon, known as weathering, has a detrimental effect on the human body over the long-term and leads to the destruction of the metabolic and immune system.[11] The trauma that accompanies being black in a country founded on and continuing its legacy of white supremacy makes black people's health, and consequently black women, vulnerable to the point of death.

This vulnerability on the basis of race is evident within black maternal mortality rates because the compounded experiences of racism put black women giving birth at a greater risk of dying than their white counterparts. The trauma and stress black people repeatedly experience due to personally mediated, internalized, and institutionalized racism accumulates and takes a toll on black people's physical and mental health.[12,13] Consequently, black people have higher stress levels than white people, and this difference continues to increase with age.[14] The heightened stress levels of black women, due in part to experiences of racism, discrimination, and bias, increase their likelihood of complications and death during and after pregnancy.

A 2012 national study found that 21 percent of black mothers reported that hospital staff treated them poorly due to their race, ethnicity, or cultural background.

Furthermore, high blood pressure (hypertension) is one of the leading causes of maternal death.[15] Black people have a greater risk of having high blood pressure and have earlier onset of hypertension.[16] As a result, it is plausible that black women are more susceptible to maternal mortality because racial disparities in hypertension persist without remedy. Research suggests that racism contributes to these disparities: personally mediated and institutionalized racism, in the forms of residential racial segregation and incarceration, may increase risk for hypertension.[17]

## GENDER AND MATERNAL MORTALITY

Our analysis of the pronounced black maternal death rate must also take into account gender inequity and gendered stereotypes that affect all women, but markedly impact black women because of their racialized and gendered identities. Women as a class are "relatively ineffective influence agents in domains or contexts" that are gender neutral or masculine because of gender stereotypes.[18] Thus, it can be expected that women's concerns are less likely to be taken seriously by doctors than men's. A 2012 national study found that 21 percent of black mothers reported that hospital staff treated them poorly due to their race, ethnicity, or cultural background.[19]

It is no surprise then that within the context of medicine, a white male-dominated industry, black women's health concerns and symptoms during and after pregnancy are dismissed. In this male-dominated field, women "typically have the extra burden of establishing their competence" in order for their concerns to be addressed.[20] This burden is especially compounded for black women due to their race and gender when highlighting symptoms or concerns during pregnancy and childbirth. Thus, the experience of dismissal that some black women endure during pregnancy and childbirth is representative of racist, sexist, and classist ideals that thrive in our patriarchal society, and more specifically affect the experiences of women of color within the health care industry.

## RACE AND GENDER AND MATERNAL MORTALITY

In order to address black maternal mortality rates, we must move beyond an analysis that centers on the most privileged of oppressed classes—white women—and instead focus on those that are most vulnerable.[21] Although the single-axis frameworks of gender and race are valuable in beginning to understand black maternal mortality rates, an intersectional analysis is needed to fully understand the scope and breadth of the problem because it takes into consideration all modalities of oppression. Black women are some of the most vulnerable patients in health care, especially in obstetrics and gynecology, because of both their race and gender in a field that has historically been riddled with white supremacy and sexism.

In order to address black maternal mortality rates, we must move beyond an analysis that centers the most privileged of oppressed classes—white women—and instead focus on those that are most vulnerable.

The trauma of experiences associated with being both black and a woman manifests itself in the high stress levels of black women, regardless of income and educational attainment.[22] While socioeconomic status is an important determinant of access to quality health care, research demonstrates that race significantly impacts maternal mortality independent of socioeconomic status.[23] Black women have higher stress loads than both white women and black men, the privileged classes of oppressed groups.[24] These heightened stress levels can be attributed to the extra barriers and burdens black women face constantly throughout their lives because of their gender, race, and identity. The impact of this heightened stress is especially precarious for black women since high stress during pregnancy can lead to preeclampsia (high blood pressure developed during pregnancy). Black people are already predisposed to high blood pressure and heart disease, two of the leading causes of maternal death.[25]

The heightened stress levels of black women cannot be mitigated simply through the mainstreamed "meditation and 'me time'" often espoused in response to stress. The chronic stress of black women is not the result of a one-time or periodic experience, but rather the accumulation of experiences in a patriarchal, white supremacist world.[26] Research demonstrates the link between racism and post-traumatic stress disorder (PTSD), which may be one mechanism through which gendered racism contributes to black women's increased risk of maternal mortality, as PTSD is associated with cardiovascular disease and earlier mortality from any cause.[27] Thus, an important intervention to reduce black maternal mortality rates is to subsidize and increase access to quality mental health treatment focused on healing trauma and managing stress for black women.

## RACE, GENDER, AND CLASS, AND MATERNAL MORTALITY

Despite black maternal mortality rates existing in epidemic proportions for all black women regardless of income or education level, black maternal health is particularly difficult to improve when one lacks income. Given structural oppression, poor women are left without access to obstetric care systems and emergency obstetric care which can be detrimental, especially for black women who face compounded oppression. Women of modest means face many barriers to care because of an inability to "pay for services, as well as failure to seek services because of prior negative experiences (e.g., receiving culturally inappropriate and unsatisfying services, reproach and sanctions for poor health habits), and lack of transportation."[28] In our capitalist society, money affords individuals opportunity, access, and life.

## MODEL DOULA PROGRAM

An effective solution to maternal mortality rates is doula care. Doulas support women throughout their pregnancy, birth, and first year of the child's life. Doula care reduces cesarean births, decreases mortality and other adverse outcomes, and improves quality of life for the first and second child.[29] However, due to a lack of financial resources, poor women are less likely to receive services from doulas. Thus, it is especially difficult to remedy black maternal mortality without considering the additional impacts of poverty.

Black women are disproportionately represented within impoverished communities and face an additional set of challenges during pregnancy and birth because of the prejudice and discrimination they face in response to their unique identity.[30] Though 21 percent of black women are living in poverty, their additional set of challenges are not taken into consideration for most doula professionals and their practice.[31] Thus, black maternal mortality rates are exacerbated for the most vulnerable poor women of color. The doula consumer market has been "largely driven by and tailored for white women" who can afford their services rather than being inclusive of and focusing on the most vulnerable, which would generate the greatest equity.[32]

> Doula care reduces cesarean births, decreases mortality and other adverse outcomes, and improves quality of life for the first and second child.

Continuous access to and support from doula services has been shown to improve outcomes for both black mothers and their babies.[33] Studies show that doula services are associated with lower rates of negative and costly outcomes such as preterm and cesarean births.[34] Thus, doula care is cost-effective as well. A study of 12 states found that the average cost savings from access to doula care among Medicaid beneficiaries would be $58.4 million, and that 3,288 preterm births per year would be prevented.[35]

Culturally relevant doulas recognize institutionalized racism in the medical system and help mediate its harmful effects by, for example, "ensuring mothers are asked consent of procedures and are addressed respectfully by medical staff."

Culturally relevant doulas have similar racial and cultural backgrounds as the mothers they serve, which supports the development of trusting and effective mother–doula relationships. Culturally relevant doulas recognize institutionalized racism in the medical system and help mediate its harmful effects by, for example, "ensuring mothers are asked consent of procedures and are addressed respectfully by medical staff."[36] They may also help link mothers to needed resources, such as nutrition and housing supports, though this extends beyond their role.

There is a doula care program in Cleveland, Ohio, that could serve as a replicable model for communities across the United States. Birthing Beautiful Communities is an organization that serves Cleveland's black community with holistic, culturally relevant care and empowerment via a team of black doulas. Inspired to address the black infant and maternal mortality crisis, Christin Farmer established Birthing Beautiful Communities in 2014 to serve the most impacted communities in Cleveland. Farmer had a vision to provide free quality care to black women throughout various stages of motherhood: pregnancy, delivery, and the child's first year of life.[37] Birthing Beautiful Communities offers: labor support services; life and goal planning; childbirth and parenting education; and healing groups that support mothers with pregnancy stress, anxiety, panic/fear, postpartum depression, and infant loss. Birthing Beautiful Communities strives to create a healing space for women to heal their historical and personal traumas through services like the birthing center and support circles. There is an emphasis on healing, empowerment, and holistic care.

Birthing Beautiful Communities is blazing trails in the health sector. Farmer employs a team of 21 black women to serve Cleveland. She ventures to connect the health, economic development, and business sector via community empowerment centered in equity. Farmer built the organization with community for the community, and describes Birthing Beautiful Communities as hiring "people from the community to work at livable wages, pay a flat fee for every birth they attend, and give them benefits."[38] Black women lead the organization and are the face of the organization providing perinatal support. Birthing Beautiful Communities is both a health service provider and workforce development program for the black community. Through her organization, Farmer is transforming what the sector looks like in the economics, health, business, and community of Cleveland.

Birthing Beautiful Communities is a model that ought to be replicated throughout America. It employs an equitable business model to empower local communities with economic capital, reflective care, and holistic care that empowers black mothers in their birth journey. Furthermore, it is uniquely positioned to meet the needs of the black community, specifically black women, in culturally responsive care. Black women are valued, empowered, and given quality care. There is potential to replicate this model in other predominantly black communities as well as communities of color across the country.

## SITE OF DELIVERY AND BLACK MATERNAL MORTALITY

The physical location where a black mother gives birth impacts whether she lives or dies. Hospitals may serve predominantly white or non-white populations based on its location and residential hypersegregation. Consequently, the hospitals that serve predominantly white populations have better quality maternal safeguards than a hospital that serves predominantly non-white populations due to our country's historical lack of investment in and disregard for communities of color.[39] This lesser quality of care experienced by hospitals that serve black and brown families is likely to be explained by organizational deficiencies. It is important to ensure the hospital leadership team is genuinely committed to investing in the rectification of these issues in an actionable manner. Adjusting a hospital's values to include black maternal health equity, ensuring solid communication between health providers, and utilizing audit and feedback procedures in efforts to reflect on the achievement (or lack thereof) of equitable outcomes addresses these organizational deficiencies.[40]

> The United States has a constitutional responsibility to promote the general welfare of all its citizens, especially that of one of its most vulnerable populations: black women.

Nonetheless, these differences in organizational outcomes continue to exist when hospitals serve hypersegregated communities. The lack of cultural competency on the part of physicians and the hospital as an institution, the underuse of evidence-based interventions, and a hospital's status as having organizational deficiencies furthers these disparities.[41] These issues can be addressed through the creation of improvement goals, checklists that mandate use of evidence-based interventions, support from hospital leadership and administration to ensure the implementation of these measures, and the use of audits and feedback to guide hospital standards to support black maternal wellbeing. Black women medical professionals should be consulted in the development of these tools. These efforts mitigate black maternal mortality rates on a class-wide level because they also address the needs of middle- and upper-income black women. Enactment of these initiatives for all black women is imperative because maternal mortality rates remain exceedingly high for black women even when income is held constant.

## POLICY RECOMMENDATIONS

The United States has a constitutional responsibility to promote the general welfare of all its citizens, especially that of one of its most vulnerable populations: black women. Yet many policies that impact black women are not designed from an intersectional analysis or an understanding that "black women are inherently valuable," and may therefore be limited in their ability to improve conditions for black women. Policies to reduce black maternal mortality rates should be policies that black women champion because they uniquely address their culturally specific needs. Policies driven by the people most impacted are the most radical and effective because they are rooted in a thorough understanding of the challenges faced by the population of that shared identity.[42] Therefore, to lessen the black maternal mortality rate, the U.S. Department of Health and Human Services should support black women by:

> Policies to reduce black maternal mortality rates should be policies that black women champion because they uniquely address their culturally specific needs.

- **Subsidizing quality mental health treatment for black women and communities of color to lessen the high stress levels that they experience.** Quality mental health care that is focused on healing trauma and stress management can provide recipients with coping tools and strategies that may help black women navigate a medical system laden with bias against black people, women, and black women. Research demonstrates that quality improvement strategies, including psychotherapy interventions specifically developed for use with low-income people of color, can ameliorate disparities in mental health outcomes.[43] Mental health professionals who are black women should be consulted to further develop quality standards and interventions specifically tailored to supporting black women's mental health.
- **Increasing access to culturally relevant doulas for low-income communities of color by committing resources to expand the development of community-based, health-worker doula services to ensure poor women of color have an advocate and health advisor.[44]** The challenges faced by black expectant mothers compound when financial barriers are present. Doula care would benefit low-income mothers because the doula can serve as an advocate and health advisor to a mom who is already preoccupied with demands that come from being black, a

woman, and poor. Doula services that are community-based provide the most benefit because a person who is already grounded in the community has a higher likelihood of being culturally responsive and garnering the trust of those in the community.

- **Mandating private insurance coverage of quality doula services.** States should pass legislation requiring managed care organizations and other private insurers to include support by doulas as a covered service. This would help increase the likelihood that middle-income black mothers access doula care.
- **Providing free doula services of quality to women who receive either Medicaid, WIC, or CHIP if they already have children and/or cannot afford the cost of a doula on their own.**[45] Research demonstrates the effectiveness of doula care for Medicaid recipients: it reduces the rate of cesarean deliveries and preterm births.[46] Receipt of Medicaid, WIC, or CHIP would serve as a useful proxy to measure income since these programs are means-tested. Expanding Medicaid coverage will allow the most vulnerable mothers access to quality doula care. In 2019, New York launched a pilot program to expand Medicaid coverage of doula services in Erie County and Kings County, the counties with the highest maternal and infant mortality rate in the state.[47] Oregon and Minnesota precede New York in allowing for reimbursement for doula services for Medicaid coverage. States can work around the federal mandate for Medicaid reimbursement of licensed professionals by initiating a clinician intermediary billing for doula services as Minnesota does or contract billing for doula services as Oregon has implemented.[48]
- **Mandating the use of evidence-based intervention checklists, creating and requiring improvement goals for hospitals, performing audits, requesting and reflecting on feedback to guide hospital standards and interventions, and demanding hospital leadership and administration actively support implementation of these measures to support black maternal health.** Black women who are medical professionals should be consulted in the development of checklists and other tools. These institution-based interventions can lessen the harm that mothers, particularly black mothers face during pregnancy and childbirth. Furthermore, given that only five percent of physicians nationwide are black women, expanding opportunities for black women to enter medical professions would help make culturally relevant care more available.[49]

> When we create and implement policies targeted at poor black mothers, we also improve outcomes for all mothers.

## CONCLUSION

Remedying black maternal mortality rates presents an opportunity for the United States to use intersectional analyses to lessen the black suffering, women's suffering, and black women's suffering that has been a pervasive part of our country's institutions and systems. When we use this framework, we acknowledge the inherent value and humanity of black women. When we create and implement policies targeted at poor black mothers, we also improve outcomes for all mothers. The Department of Health and Human Services can improve outcomes through subsidized mental health treatment, increased access to and provision of community health worker programs, incentivization and regulation of a more inclusive doula industry, subsidized doula costs, free doula services for the most financially insecure women, and improved organizational operations.

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# COMMUNITY RISK SHARING ORGANIZATIONS FOR WILDFIRE INSURANCE IN CALIFORNIA

by Sadie Frank

# COMMUNITY RISK SHARING ORGANIZATIONS FOR WILDFIRE INSURANCE IN CALIFORNIA

SADIE FRANK

Edited by Dylan Crary, Eli Kahn, Edwin Sun, and William Wilcox

*This paper proposes a new policy to ensure the continued viability of homeowners insurance markets in high-fire-risk California communities. By addressing risk mitigation and the limitations of public insurance provision, this policy provides community-level private insurance in exchange for proactive risk reduction.*

The 2018 wildfire season was the most destructive wildfire season in the history of California.[1] In a heavily wooded state already known for its forestry and fire management, the Mendocino Complex Fire became the largest wildfire in state history. Beginning in August of 2018, the Mendocino Complex Fire lasted several weeks and burned 283,800 acres of land, roughly the size of the city of Los Angeles. Just two months later the Camp Fire swept through northern California, becoming the deadliest fire incident recorded in the United States in a hundred years and completely destroying the town of Paradise, a small mountain community of mostly seniors.

While wildfires are a fairly well understood natural phenomenon, the scale of the current wildfire crisis in California is attributable to climate change.[2] Vicious cycles of drought dry out forests, and subsequent extreme rainfall causes rapid undergrowth accumulation. Together, these two changes have fed more intense and longer-burning fires. Already, the Center for Climate and Energy Solutions reports that "large wildfires in the United States burn more than twice the area they did in 1970, and the average wildfire season is 78 days longer."[3] Climate scientists project that this trend will continue as California becomes hotter and drier, regardless of actions taken to reduce emissions (and given the current federal political landscape, a healthy dose of pessimism is reasonable).

California is already dealing with the immediate effects of the climate crisis and has the opportunity to innovate in regard to adaptation policies. One of the most underdeveloped and important areas of adaptation policy, especially pertaining to wildfires, is homeowners insurance. This paper investigates changes to homeowners insurance in response to the wildfire crisis, draws evidence from other natural disaster case studies for context and finally proposes an adaptation strategy designed to offer 'co-benefits' by encouraging responsible communal land use in exchange for continued coverage in fire-prone areas. This proposal is intended to augment Sec 2(a) of California State Senate Bill 30, specifically in answer to question (5): Can we develop rating systems based on community risk factors to climate events, and use insurance incentives to make a community more resilient?[4]

It is crucial to note that there is a fundamental practical and ethical tension with all climate adaptation policies between so-called "managed retreat" and in situ adaptation. Managed retreat policies involve pulling back from disaster prone areas and leaving them entirely uninhabited, while in situ adaptation policies support resilience building in place. This paper is specifically focused on in situ adaptation, due to equity imperatives and feasibility considerations. Many of the homeowners and communities that are the most vulnerable to catastrophic wildfires, and the most at risk of losing their insurance, are lower income and more rural, with limited resources to move.[5] Further, as insurance holding is a mortgage requirement, homeowners who want to move but are not covered by insurance are unable to do so. High-income homeowners have the ability to afford insurance premium hikes, and therefore relocate more easily in addition to already being better positioned to navigate California's high cost of housing. Given the current state of housing in California, policymakers have a responsibility to help low-income homeowners participate in insurance markets that can protect their current homes and increase their capacity for resilience. Further, homeowners and communities do have a degree of control over their wildfire risk- thus, this policy argues that with proactive land management and stakeholder support, it is possible to keep inhabiting California's wildfire vulnerable communities.

Given the current state of housing in California, policymakers have a responsibility to help low-income homeowners participate in insurance markets that can protect their current homes and increase their capacity for resilience.

## RECENT MEGA-FIRES HAVE DISRUPTED THE HOMEOWNERS INSURANCE MARKET

In California, prior to the past few years of devastating wildfires, standard homeowners insurance policies *did* provide coverage for wildfires, even in high-risk areas. Both public and private insurers covered structures in high-risk fire zones via standard market-based insurance policies (high-risk is defined by CalFire according to multiple criteria, including vegetation and topography that makes communities especially fire-prone). However, as private insurers took stock of the massive losses incurred across the state from the recent wildfire seasons, they began reducing coverage in riskier areas. According to the California Department of Insurance, the lost property insurance claims from the 2018 fire season totaled $9 billion. As wildfires grew more severe from 2015-2016, there was a 15 percent increase in consumers complaining of being dropped by their insurance in high-risk counties, totaling 10,000 dropped policies.[6] In Paradise, the community destroyed by the Camp Fire, one small insurer was driven into insolvency by the magnitude of losses, and was taken over by the state.[7]

As private coverage has been reduced, many homeowners have turned to the "insurance of last resort," the California State insurance provider FAIR California. Created from a paid pool of all homeowner insurance companies writing plans in the state, FAIR California provides insurance for homeowners who are unable to find coverage from fire loss. This fund has been mandated by the state government since 1968.[8] As standard insurance becomes less available however, homeowners unable to find private insurance place pressure on alternative forms of housing insurance like Cal FAIR, a program never intended to replace large portions of the private homeowner insurance market. The California State government has passed legislation to begin to address the crisis, passing SB-30 (Climate Change and Insurance) in 2017 with the goal of creating mitigation incentives and providing climate risk management for communities and infrastructure projects.[9] However, given the emergence and scale of the wildfire and climate crisis, there is much work to be done to protect vulnerable communities. It is helpful to compare the current California context to other recent natural disasters that have revealed structural deficiencies in homeowner insurance markets elsewhere in the United States.

> According to the California Department of Insurance, the lost property insurance claims from the 2018 fire season totaled $9 billion.

## HURRICANE HARVEY DEMONSTRATES THE PITFALLS OF OVERRELIANCE ON PUBLIC DISASTER INSURANCE

Hurricane Harvey is tied with Katrina as the costliest cyclone in US history. It is estimated that up to 30 percent of Harris County was submerged during the storm's landfall. Because flood insurance in Houston was considered a private insurance "add-on," many homeowners opted out of coverage. The Associated Press reported that up to 80 percent of affected homes during Hurricane Harvey did not have adequate private homeowners insurance. However, all homeowners in Houston were eligible for the National Flood Insurance Program or NFIP, administered through FEMA, a program that mandates public coverage of homes in a 100-year floodplain.[10]

Without private flood insurance, most homeowners drew on the NFIP program heavily. By the end of the fiscal year, 16 billion dollars of total payments were spread among 252,925 claims.[11] However, the disparities in economic outcomes were stark. According to the current director of FEMA, Peter Gaynor, "the average payout in [federal] emergency disaster assistance was about $3,000...while the average private insurance payout was $117,000.[12] This points to the stress placed on federal and state agencies to respond to disaster funding needs and the inadequacy of public recovery funds in dealing with the increasing rate of disasters. It also raises equity concerns for insurance access, as homeowners who could afford private insurance "add-ons" were left with higher pay-outs than those who had to rely on government assistance. That equity concern, and the stark differential outcomes in insurance provision mirror the California wildfire context. As noted previously, the destruction of the town of Paradise in 2018 impacted some of the most vulnerable and least recovery-equipped, including low-income senior citizens.

> It is attractive for private insurance companies to pull out of markets when their risk becomes too high...this leaves homeowners and communities exposed to the risk of uncompensated, catastrophic loss.

The Hurricane Harvey case study demonstrates that robust non-governmental insurance provision is a critical component in recovery outcomes for disaster impacted communities. It is attractive for private insurance companies to pull out of markets when their risk becomes too high, as their continued existence depends on maintaining pools to cover claims and generate profits. However, this leaves homeowners and communities exposed to the risk of uncompensaed, catastrophic loss. Additionally, as shown in both the Hurricane Harvey and current California context, public insurance provision does not offer the same level of coverage as private standard plans. Further, public provision is subject to other risks including political leadership changes and budgetary gaps. Therefore, alternative mechanisms are needed to stabilize the balance between market incentives, public regulation, and the private needs of property owners.

## RISK MITIGATION IS KEY TO DEVELOPING COMPREHENSIVE INSURANCE PROVISION

The insurance marketplace functions as a delicate balance of incentives and risk management. Insurance companies provide quotes for policy seekers based on varying levels of risk analysis, usually charging more for those judged as 'riskier' policy seekers based on whatever criterion they are using. This implicitly rewards risk mitigating behavior (or in adverse circumstances can fuel discrimination) and provides stability for insurance companies to offer coverage with baseline security that their losses will be recovered. The risk analysis undertaken by insurance companies is usually based on a complex calculus of probabilistic data modeling of observed and historical trends in weather, and applicant characteristics, as well as other variables.[13] In the case of wildfires, climate change is increasingly throwing these models out of balance for homeowners, as more frequent extreme weather occurrences increase systemic risk. Decreasing risk through prevention activities, including individual and community risk management strategies can aid in stabilizing insurance markets and incentivize positive mitigation behavior.

## THE POLICY OPPORTUNITY: INCENTIVIZING PROACTIVE PRIVATE RISK MITIGATION IN THE WILDLAND URBAN INTERFACE

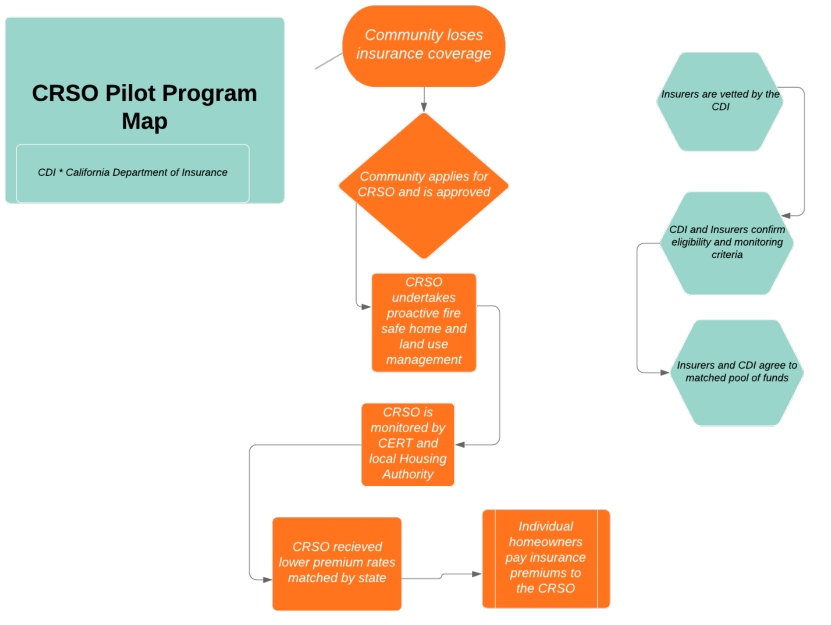
Wildfires are one area of climate change where humans can mitigate disaster risk through local resilience activities. According to the US National Park Service, up to 85 percent of wildfires are caused by human activity, whether from carelessness or merely accidental ignition through sparks. [14] While climate change and climatological conditions increase the risk of this ignition through soil dryness, undergrowth thickness, and vegetation topography, active forest and land use management practices can greatly reduce the risk of ignition and catastrophic property damage. These practices include prescribed burns, controlled fires started to clear underbrush and encourage healthy tree growth, as well as defensible space management. Defensible space management includes land use strategies to put physical buffers between property lines and ignition sources. There is robust evidence to support the effectiveness of these and similar strategies.[15] While the past few decades have seen increased resistance to prescribed burns due to air quality issues, the need for active community-level land and forest management has come into sharp focus as Californians increasingly push into the wildland-urban interface (WUI). Communities in the WUI are left more vulnerable to opportunities for starting fires and their devastating impacts.

> The need for private land management in the wildland-urban interface (WUI), coupled with the risk implications of insurance marketplace changes, presents an opportunity for proactive adaptation policy.

Recent research finds that "as home ignitions are primarily determined by conditions on private property, the principal authority, and thus, primary responsibility for preventing WUI home destruction lies with homeowners rather than public land managers."[16] This recognition of the need for private land management in the WUI, coupled with the risk implications of insurance marketplace changes, presents an opportunity for proactive adaptation policy.

## CALIFORNIA'S OPPORTUNITY: SB-30

In 2018, the California State Legislature passed Senate Bill 30 (SB-30). Introduced by Ricardo Lara, SB-30 "require[s] the Insurance Commissioner to convene a working group to identify, assess, and recommend risk transfer market mechanisms that, among other things, promote investment in natural infrastructure to reduce the risks of climate change related to catastrophic events, create incentives for investment in natural infrastructure to reduce risks to communities, and provide mitigation incentives for private investment in natural lands to lessen exposure and reduce climate risks to public safety, property, utilities, and infrastructure."[17] This working group is intended to address five key questions related to the above goals, including answering the question: Can we develop rating systems based on community risk factors to climate events,




and use insurance incentives to make a community more resilient? This policy proposal addresses the latter part of that question, and offers a model for insurance incentives to build community resilience.

## COMMUNITY RISK SHARING ORGANIZATIONS FOR WILDFIRE INSURANCE

This proposal suggests the boundaries and structure of Community Risk Sharing Organizations (CRSOs) in the California WUI. CRSOs would consist of two to ten privately owned land parcels that share a border with each other in an "at-risk" fire community, as designated by CalFire (see map in appendix), that enter into a CRSO agreement. These communities would meet the criteria for CRSO incorporation if they:

- Are geographically eligible as an at-risk community on non-federal land
- Have experienced significantly reduced homeowners insurance coverage availability, or increased premiums in the last five years from wildfires, as determined by an initial Insurance Commissioner's Office pilot research project and community surveying.

CRSO management responsibilities would include proactive land use strategies for fire reduction at the community level. This could include, among other options:

- Comprehensive defensible space development
- Residential infrastructure hardening
- Evacuation route planning and maintenance
- Compliance/assistance with prescribed burns with local firefighter authorities

In exchange for undertaking these activities the homes within these CRSO's would be eligible for state backed private insurance to gain coverage at the community level. Homeowner's compliance would be monitored through partnerships with local housing authorities or CERT's (Community Emergency Response Teams, usually loosely organized local emergency management coalitions). Individual homeowners would be assessed an annual rate based on their property size, but coverage would be aggregated at the community level based on the number of member households. CRSO members would still pay premiums, which would be stabilized at current levels in return for active CRSO membership. In this way, CRSOs would provide block coverage and continual affordable rates for homeowners by incentivizing communal or 'co-benefits' from proactive land use management and risk sharing among neighbors.

## PILOT PROJECT FUNDING

The FAIR insurance plan in California sets a precedent for this type of public-private funding mechanism.[18] Functioning as a public-private partnership, the State will match contributions from the private premiums paid from each CRSO to reduce the upfront risk to insurance companies and provide state guaranteed funds. The State will manage all CRSO applications through the California Insurance Commision, and recommend approved applications to private insurance partners that are currently already vetted and regulated through the state. After an initial five year assessment of project success, the State will phase down matching contributions, under the assumption that CRSOs will have generated a substantial pool of existing premiums and that the CRSO fire mitigation strategies will have proved successful at property protection.

## FINANCIAL FEASIBILITY

Community risk sharing for disaster resiliency is in its infancy, with few comparable programs to assess. According to the Availability and Affordability of Wildfire Report published by the California Department of Insurance in 2018, "Most insurers do not take into consideration wildfire mitigation conducted by homeowners or the community, either for underwriting or for offering a premium credit for mitigation efforts."[19] Further, community mitigation efforts are currently not factored into wildfire risk models at all. The CRSO pilot program will offer a pathway to test the inclusion of such activities in insurance risk analysis.

Assumptions of financial feasibility model:

- The current average annual premium of homeowners insurance in California is $986.[20] This is the baseline the CRSO program is targeted at maintaining for individual homeowners.
- The California Department of Insurance has reported that during the 2018 fire season "homeowners who were paying an annual premium of $800-$1,000 saw increases to as high as $2,500-$5,000," or greater than 300 percent.[21] This is taken to be the comparison range for homeowners without CRSO management.
- The Archuleta County coordinator for Wildfire Adapted Partnerships reports that a 150-foot defensive space

**Total Projected Homeowner Premiums During Pilot Program With CRSO**

| *Year 1: Homeowner Level* | *Year 2-5: Homeowner Level* |
|---|---|
| Baseline average premium: $986<br>Upfront costs of defensivle space: $2,500<br>Total year 1 cost: $3,586 | Average premiums over 4 years: $3,944<br>Total pilot cost: $7,530 |

**Total Projected Homeowner Premiums During Pilot Program Without CRSO**

| *Year 1: Homeowner Level* | *Year 2-5: Homeowner Level* |
|---|---|
| Annual cost with max premium raise: $5,000<br>Maximum premium cost over pilot: $25,000 | Annual premiums with min rate raise: $2,500<br>Minimum premium cost over pilot: $12,500 |

radius around a house can typically cost less than $2,500.[22] This is taken to be the baseline cost to homeowners of proactive fire risk management.

Based on these assumptions, CRSO membership is projected to save homeowners between $17,470 and $4,970 over the course of the pilot program.

## CHALLENGES TO PROJECT SUCCESS

This proposal hopes to reduce the risk of adverse social incentives through social capital and community pressure. By setting insurance coverage at the community level, neighbors are equally responsible for prevention activities and more incentivized to participate in land management. However, any community-level proposal is vulnerable to bad actors and the tragedy of the commons. The risk of free-riding may require active implementation monitoring by local housing authorities. Other policy challenges include the continued engagement of private insurers, who face strong financial pressure to pull out of fire risk markets in the face of devastating wildfire. The negotiation process between the DOI and the private insurers prior to pilot launch is designed to ensure that insurance companies have adequate incentives to participate, and that the state has a clear understanding of how premiums are assessed to prevent extortionate rates. Ensuring transparency and collaboration in assessing metrics, matched funding, and eligibility criteria will therefore be critical to project success.

## MONITORING AND ENFORCEMENT OF PILOT PROGRAM

This policy is expected to take the form of a pilot under the working group provision of SB-30. To assess the scalability and success of such a program, rigorous enforcement and monitoring will be required. Qualitative interviews with CRSO participants will be collected periodically to ascertain attitudes about the program. Partners in local housing and emergency management services will monitor and assess the land use management, and provide guidance and training to CRSO members in fire reduction strategies. The insurance companies will be invited to develop quality assurance standards alongside emergency management officials to ensure continual buy in and agreement between public and private stakeholders.

## CONCLUSION: DEVELOPING INNOVATIVE RISK MITIGATION POLICIES IS CRUCIAL FOR A CLIMATE-CHANGED CALIFORNIA

Proactive risk mitigation strategies can reduce the social and economic losses from climate induced disasters like wildfire. The insurance industry is an important locus of adaptation policy, which is already facing pressures due to increased systemic risk. As the case study of flood insurance post Hurricane Harvey illustrates, the traditional roles of public and private insurance programs may not adequately address the equity concerns, overall needs and scope of a climate changed future. New public-private wildfire insurance programs at the community level would address the need to risk share among neighbors, as well as the need to design policies that provide climate 'co-benefits.' This allows at-risk communities to access homeowners insurance by undertaking housing and land management activities that protect both their homes and their communities from the devastating effects of wildfire.

New public-private wildfire insurance programs at the community level would address the need to risk share among neighbors, as well as the need to design policies that provide climate 'co-benefits'.

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## APPENDIX


FRAP
STATE OF CALIFORNIA
FIRE HAZARD SEVERITY ZONES
IN STATE RESPONSIBLITY AREAS
Adopted by CAL FIRE on November 7, 2007
San Francisco
PACIFIC OCEAN
Los Angeles
San Diego

# A CONVERSATION WITH UC PRESIDENT JANET NAPOLITANO

# A CONVERSATION WITH UC PRESIDENT JANET NAPOLITANO

Edited by Molly McGregor and Amelia Watts

*Janet Napolitano is the twentieth president of the University of California, the nation's largest public research university with ten campuses, five medical centers, three affiliated national laboratories, and a statewide agriculture and natural resources program. At UC, President Napolitano has launched initiatives to achieve financial stability for the University; achieve carbon neutrality across the UC system by 2025; accelerate the translation of UC research into products and services; focus UC resources on global food security; and create a systemwide program with Mexico. In 2014, she was appointed a tenured faculty member of UC Berkeley's Goldman School of Public Policy, and in 2015 she was elected to the American Academy of Arts and Sciences. Prior to joining the University of California, President Napolitano served as Secretary of Homeland Security from 2009 to 2013. She is a former two-term Governor of Arizona, a former Attorney General of Arizona, and a former U.S. Attorney for the District of Arizona. In 2019, Napolitano published How Safe Are We? Homeland Security Since 9/11. President Napolitano earned her B.S. degree, summa cum laude, in Political Science from Santa Clara University, and her J.D. from the University of Virginia. She is based in Oakland, CA.*

*President Napolitano announced in 2019 that she would conclude her tenure in August of 2020. After a yearlong break, she intends to focus on teaching at the Goldman School of Public Policy.*

*BPPJ would like to note that this interview was conducted prior to the escalation of the UC Cost of Living Adjustment (COLA) strikes. BPPJ stands in solidarity with graduate student workers who demand a living wage and demilitarization of campus police. We also strongly condemn the actions that President Napolitano and the University of California have taken to retaliate against student strikers. We urge President Naplitano's office to bargain in good faith with our representatives at UAW 2865 to meet the needs of graduate student workers across the UC system. Additionally, we stand in solidarity with UC service and health care workers who had been striking last fall to prevent employee displacement and the outsourcing of their jobs.*

*The below transcript has been lightly edited for clarity.*

**BPPJ:** In your new book, How Safe Are We, you describe the Department of Homeland Security as the least understood agency of the federal government. In a few words, could you describe the Department of Homeland Security and your role there?

**J. NAPOLITANO:** DHS was an amalgamation of what previously had been 22 different agencies of the federal government, all from different legacy departments, brought together under one roof out of the thinking that dots were not connected prior to the 9/11 attacks. If, under one umbrella, you had an agency that had land border security, sea border security, and air borders, if you had one place where protection of the nation's critical infrastructure was centered (that's where you get into cyber), if you put all of the immigration functions of the federal government in one department (meaning both border enforcement, but also interior enforcement and the legalization process), and if you also put under one roof the nation's resilience capability in terms of natural disasters, then the nation overall would be better prepared.

And so DHS was born. It's an amazingly complicated department to run because it combines all of these missions. It's also very large -- the third largest department of the federal government -- and it's fascinating because homeland security implicates the whole national security administrative structure. It's also very international because if you wait until problems actually get to our physical borders, you've often waited too long. Your chances of interrupting nefarious activity are better if you give yourself more space in which to operate.

> What I tried to do at DHS was keep people informed about risks but not fearful. It would be so easy for all of us just to curl ourselves in a ball and say the world's going to heck and there's nothing I can do about it.

**BPPJ:** In policy school, we often talk about creating new government programs and improving efficiency by encouraging collaboration and communication between departments. The Department of Homeland Security is an interesting case study in how difficult it can be to create something new. Can you tell us a little bit about the growing pains that DHS was experiencing when you took over and some of the more enduring challenges?

**J. NAPOLITANO:** So when you bring together all these different agencies, you have different agency cultures that you're bringing together. You have different personnel policies. You have different email systems. You have different uniforms. You have different procurement practices. All those kinds of nuts and bolts had to be harmonized and brought together -- it's not glamorous at all. I would say that we made progress on it while I was Secretary, but it was still a work in progress for sure.

You know, the Department of Defense (DOD) was created after World War II and they were only putting together like four or five different agencies -- not twenty-two. There was a report that concluded that it really took the DOD about 40 years to become the Pentagon. When I took over DHS, it was eleven years old, so it was still in its adolescence.

Frankly, I have been very concerned that the constant changeover in leadership at DHS under the Trump administration and the use of "Actings" instead of confirmed individuals has set the department back. I think it's been very difficult from a management perspective.

**BPPJ:** In the book, you talk about the anxiety that Americans felt after 9/11. With mass shootings, climate change, wildfires in California, floods in Houston, concerns about our election security… it feels like that sense of anxiety has become commonplace. How did it shape your leadership and how has it changed policy-making in general?

**J. NAPOLITANO:** 9/11 was a huge shock to the American psyche -- that an attack like that could occur on our soil. Everybody who was more than four or five years old at the time knows where they were on 9/11, like people who are my age know where they were when JFK was assassinated. It's one of those defining moments in American history. There's been this tremendous focus on anti-terrorism, particularly that associated with Islamists, and in a way, I think of it differently than some of the things that you just described because none of them has a single defining moment. They're more kind of ongoing sources of concern and angst. What I tried to do at DHS was keep people informed about risks but not fearful. It would be so easy for all of us just to curl ourselves in a ball and say the world's going to heck and there's nothing I can do about it.

The fact of the matter is we have some huge challenges. I would put climate right at the top, actually, as the largest, most complicated issue -- even above cyber -- facing the planet today. But like all massive problems, it can be broken into components and it can be worked. The problem is that it really requires leadership at the top to say that this is a priority. You need leadership to say I want to know what's happening, I want to know what your benchmarks are, and I want to know what your metrics are. I want to know what problems you're experiencing, and I want to know what kind of resources you need. Right now, in the United States, we don't have that. We don't have it in many countries of the world, frankly. So the the parts of climate change that should be addressed are not being addressed. I would also put cyber up there as an enormously complicated set of issues.

**BPPJ:** And both of those have jurisdictional issues.

**J. NAPOLITANO:** Oh, both. They're international in scope. In the United States, you have questions like what's federal? What's state? What's in the public sector? What's in the private sector? You have unclear jurisdiction amongst the federal agencies and so many cooks in the kitchen. That's what makes it so complicated. But we don't solve problems by saying they're hard. We solve problems by taking them on.

**BPPJ:** On those issues, one of the things you talk about in the book is the need for more effective engagement with the private sector. Can you speak a little bit about the role that you would like to see the private sector playing in terms of addressing the cybersecurity threats as well as things like climate change, given that we're not effectively addressing these problems at the moment?

**J. NAPOLITANO:** When we say the “private sector,” that's a label that covers a huge variety of players -- big businesses, small businesses, businesses headquartered in the United States, businesses headquartered in other countries. You have everything from the mom-and-pop shop to the large international conglomerate. And in my experience, business responds to problems in different ways. It responds when there are economic incentives. That's probably the place where you see the most direct response to government action. If there's an economic incentive for business to do X, business moves in that direction. Another area where business is responsive is when there's regulatory and legal oversight. And then you'll see business move in a different direction. A third area is when you call on the private sector (and you have to get the right level and the right players) to contribute voluntarily to addressing an issue by contributing expertise and by voluntarily adopting standards.

The problem in the cyber world is that, for too long, investments in cybersecurity were not reflected in the bottom line. So the incentive was to underinvest and to make compliance with standards voluntary. The problem with that, of course, is that we live in a networked world, so if there is a gap anywhere in the network, the whole network can be infiltrated.

The problem in the cyber world is that, for too long, investments in cybersecurity were not reflected in the bottom line. So the incentive was to underinvest and to make compliance with standards voluntary. The problem with that, of course, is that we live in a networked world, so if there is a gap anywhere in the network, the whole network can be infiltrated. We haven't solved that problem in cyber. What we need to do is identify the nation's critical infrastructure. And in my view, we ought to have national standards that are mandatory, not voluntary. The government needs to work with the private sector to establish those standards. Then it needs to have oversight capacity to be able to make sure those standards are being adhered to. But we're far, far away from that now.

And we have some particular issues like the election systems of the country. Elections are controlled by local officials. They're not federal, and it was only recently that Congress actually appropriated money for local departments to up their game in terms of the security of their ballot systems. But it's still not totally secure, even with a massive election coming up. So there's a risk.

**BPPJ:** What are your fears for the upcoming election since we're not where we need to be in terms of protecting our systems?

**J. NAPOLITANO:** Well, I think there are several. One is the security of the ballot mechanisms themselves. To me, the only real safeguard we have is to retain paper ballot records. In a close election, an accurate count really matters. We saw that in 2000 during the Bush-Gore election, and we saw it, in a way, in 2016 where it was really only 75,000 votes among three states that decided the Electoral College. So there's a risk to the actual mechanism of the election. And then there's the whole interference risk on the big social media platforms in terms of spreading misinformation and misleading information designed to either encourage support for one candidate or another or designed to suppress the vote or certain segments of the vote.

**BPPJ:** We are very excited to have you join the Goldman School once you finish your tenure as President of the UC, and we're very curious to know what you'd like to bring to the school given the variety of careers you've had in the public sector. What are you most excited and what might you decide to teach at Goldman?

**J. NAPOLITANO:** That is a work in progress. I'm definitely interested in all of the topics that are implicated by homeland security. And I do think I have some unique experience to bring to bear there! I could also teach a course on leadership in public higher education. The University of California is a unique institution of higher education in the country. There are some who say that being president of the UC is the most complicated job in higher education in the country. I don't know about that, but it's certainly complicated enough.

Part of the equation is what the school would like me to teach and what the students' interests are. And then there is also state government, and justice policy and prosecution policy. So there are a lot of different areas. I've had interesting jobs my whole career, so I can see constructing a course in any of those areas. I'll be having discussions with Dean Brady and others, and we'll put together something good.

**BPPJ**: In your book, you say that being a public servant means serving where you're needed. Can you talk about your theory of public leadership? How have you approached leadership and how has it changed in the various roles you've held?

A good leader is someone who can create a broad vision for an organization, persuade people to follow that vision, and then have the skill set necessary to implement that vision. And a good manager is really focused on the implementation part.

**J. NAPOLITANO:** Good question. In a way, you'd like to say you know good leadership when you see it. But I tend to think that there's a difference between being a good leader and being a good manager. A good leader is someone who can create a broad vision for an organization, persuade people to follow that vision, and then have the skill set necessary to implement that vision. And a good manager is really focused on the implementation part. I think good leadership requires good communication skills and good listening skills. I think it requires energy. When you're the leader, you go into a meeting, you've got to provide the energy and get people going. Those are some of my thoughts anyway. It's a good question.

**BPPJ:** Having just celebrated its 50th anniversary, the Goldman School is currently conducting a curriculum review to determine what training professionals will need for the next 50 years in public policy. What do you see as the essential skills that every public policy practitioner needs to have?

**J. NAPOLITANO:** You need good analytic skills that span a broad spectrum, particularly quantitative skills depending on which area you're looking at. I think you also need an ability to interpret a policy vision that is articulated, either by the head of your agency or the elected official that you're working for, and translate it into something on the ground.

In the public realm, even if you're in a so-called non-political role, I think you have to have a little political judgment, political sensibility. Public means public, and that involves some politics.

And there needs to be a constant focus on what the "value add" is. What's the value add of the work that you're doing? And what is the value added compared to the costs of what you're doing? I think those are the skills you need today and I think those are the skills you'll need 50 years from now. In the public realm, even if you're in a so-called non-political role, I think you have to have a little political judgment, political sensibility. Public means public, and that involves some politics.

**BPPJ:** As you're wrapping up your tenure as the president of the UC system, can you reflect on the skills that you brought to bear in this position and how it differed from previous jobs you've had in public service, especially since you didn't come in with an educator's background?

**J. NAPOLITANO:** So there are certain things that big institutions have in common, whether you're running a state or federal agency, or big university system. You're dealing with budgets. You're dealing with multiple stakeholders. You're dealing with the media. There's always a crisis de jour that you have to work through while still trying to keep the trains running toward larger, long-term goals. On those elements, I brought a lot of experience to this role. What I didn't bring to this role was direct experience in higher education. I had an appreciation for it, but no direct experience in it. And I didn't have experience with the shared governance model [facilitating faculty participation in the operation of the UC through institutions like the faculty senate]. I came to appreciate that as actually one of the strengths of the University of California.

Every different aspect of policy has its own organizations, has its own acronyms, has its own ways of talking. So I had to learn a lot of vocabulary, like what is the AAU? And why do we care? And who else reads Inside Higher Ed on a daily basis? Those kinds of things. And that's fun. You know, that's one of the fun things about changing roles. You get to learn about different institutions and the way they work and what they respond to. I enjoy that.

**BPPJ:** The UC system is a unique public educational system. What are your views about the role that it plays, not only in society, but also in training future civil servants and others in the community, not just for California but globally? Do you see it as an institution of upward social mobility?

**J. NAPOLITANO:** California would not be California without the university. There are whole swaths of the California economy that come out of the UC, from the wine industry to semiconductors to entertainment to different kinds of crops and agricultural techniques that have allowed us to grow crops in the Valley, for example. That all comes out of the UC.

We often use this phrase “engine of social mobility.” And the UC really is, in terms of the 42 percent of undergraduates that are first generation students, in terms of the income levels that graduates earn, and in terms of all of the fields in California that graduates enter. You go up to Sacramento and you go to legislators’ offices, and even if they didn't go to the UC, they'll have staffers who did. Or, you go to a legislative committee and they're calling on experts. And where do they find the experts? They find them at the UC. So it's a social mobility engine that fuels the California economy and trains the next generation with the skill sets that are going to be needed to sustain California for the future.

**BPPJ:** Do you see any key areas for improvement in terms of equity in the UC system?

**J. NAPOLITANO:** Yes, we're always working on equity. One area that I'm keenly interested in is how to close the time-to-degree gaps for students from lower income families. There's also a big overlap there with race and socioeconomic status. We do pretty well overall at the six-year rate, but when you ask who takes four and who takes six, there's a gap. And that gap means more student debt, among other things. So we're working with all of the campuses to close that gap.

**BPPJ:** What's an accomplishment, maybe a lesser known accomplishment, that you are most proud of? What is one that you wish interviewers would ask you about?

**J. NAPOLITANO:** Well, I did invent the TSA PreCheck name. We had decided that we needed a process for airline passengers that we already knew to be low-risk before they showed up at the security gate, if there was a way to put them in a line so they didn't have to take their shoes off, etc. And the staff came to me with this very long, governmental name like “pre-trip validation of risk factor program” or something. And I was like, we're checking people before they get to the gate, right? So it's a pre-check. PreCheck. So yeah, maybe that'll go on my tombstone. Sometimes leadership is just being able to pick the right label.

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