

## Economic Growth Program Policy Paper

# DRIVING OUT OF THE RED WITH GREENER CARS

## Policies for Cheaper, Cleaner Auto Transportation in California's Central Valley

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California has pioneered incentive programs to encourage the early adoption of hybrid, electric, and natural gas cars and the development of new greener technologies and jobs. As the state works to comply with the greenhouse gas emissions reductions mandated by AB32 a large task remains: Turning over the state's auto fleet towards cleaner and zero emission vehicles en masse. The key to doing this successfully will be finding new models for fleet retirement and replacement that reach middle and lower income drivers. Policy makers have an opportunity to spur investment in cleaner, cheaper transportation choices that reduce families' day-to-day expenses while reducing pollution and greenhouse gas emissions. By designing policies that are double green—green vehicles and green wallets—policymakers have the opportunity to make more California families partners in building a greener, more prosperous future.

The San Joaquin Valley is an ideal place for trials of innovative policies. The Valley's long-standing air quality issues give the state a variety of tools and funds to reduce pollution. Importantly, one source of smog-forming pollutants is the older, out of tune vehicles that are found in disproportionate numbers in the Valley. As this report details, those vehicles are part of a “perfect storm” affecting Valley residents: Low wages, long commutes, and lack of access to credit give a disproportionate number of Valley households no choice but to drive very old cars. These cars have high emissions of pollutants and carbon, but the cost of operating them is also extremely high, effectively reducing income by 30 percent and even more. Valley residents have dealt with these costs by leveraging their social capital to build a network of carpools and van pools. However, their needs are not met by current policies: Clean vehicle incentives and vehicle scrappage and replacement programs tend to reach wealthier households, while the highest vanpool and carpool incentives go to state and federal employees. Using state tools and collaborations with nonprofit

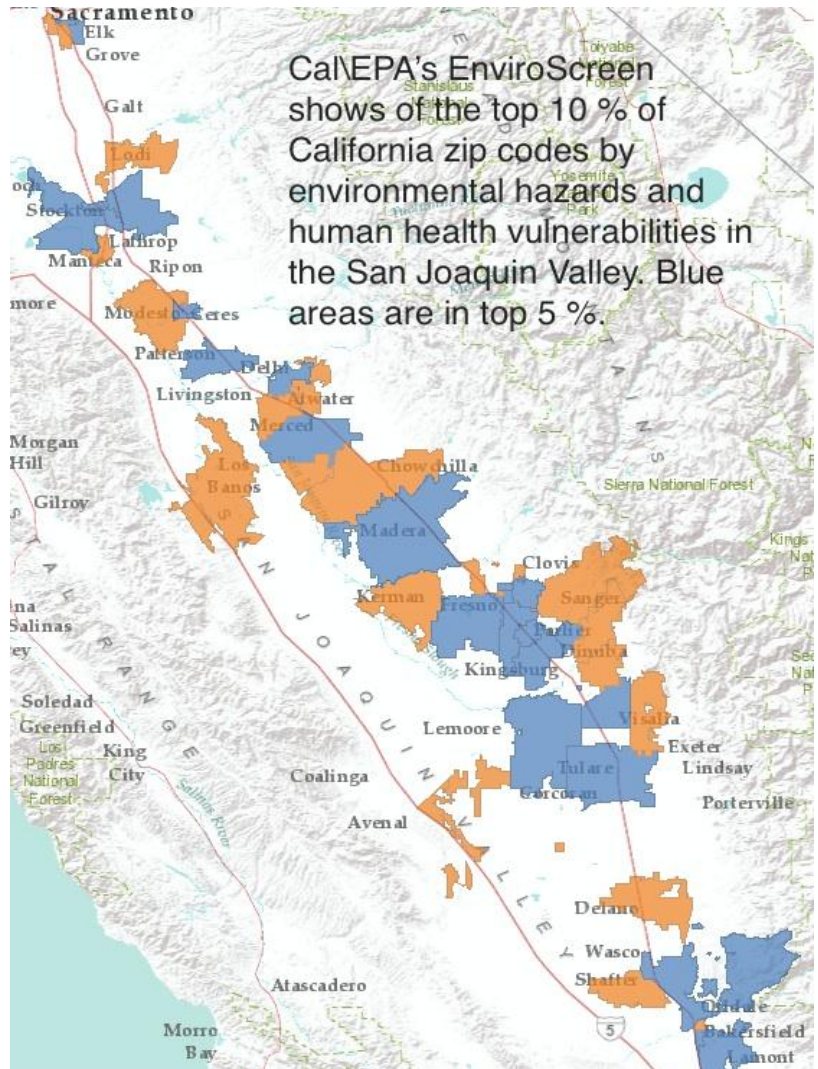
and community groups, policy makers can empower families to choose cleaner vehicles that are cheaper to operate, while fostering more shared transit. The second half of this paper looks at established state and national programs for financing clean vehicles for middle and lower income households as well as models for providing low cost, low emissions transit through carpools and van pools. The San Joaquin Valley can be a state and national leader for more equitable, effective greenhouse gas emissions reduction policies.

## The Drive to Find Work

“Fresno workers are not just competing with other Fresno workers for jobs, people are willing to drive in from all over the valley. The jobs here are a magnet. The lack of access to reliable transportation is one of the main obstacles people at the lower end of the income spectrum face in breaking out of poverty here. The cost of gas is one component, but people operate old cars that become a money pit, and they need a license, insurance, registration. The ability to operate a car legally is a huge Herculean hurdle.” -- Blake Konczal, Fresno Workforce Investment Board

Mobility is one thing that unites the 4 million diverse residents of California’s 300 mile long San Joaquin Valley as they try to find affordable housing and compete for jobs. This mobility is almost entirely provided by private vehicles: Only one percent of valley residents reported that they rode public transit to work, according to the 2011 American Community Survey. For most valley workers, taking public transit is simply not an option: A multi-community study by UC Davis found that a 45 minute car commute gave Valley workers access to 165,200 blue collar, health, retail, and service jobs while the same commute on transit reached just 1895.<sup>1</sup>

Mobility is expensive for Valley workers. According to the ACS, the percentage of workers making extreme commutes of more than 90 minutes a day from affordable housing in Stanislaus, San Joaquin, and Merced counties to jobs elsewhere is 6 percent—more than double the statewide rate of 3 percent. Beyond the cities or suburbs along the spine of Route 99, densely populated small communities are isolated by miles of farmland, forcing residents to drive long



distances for work, shopping, and medical care. A study by the Agricultural Industries Transportation Service used census statistics to find that rural communities like Arvin, Orange Grove, and Earlimart, where workers travel significant distances for jobs, “face a harshly different economic reality” than the rest of the Valley because of low median income, high unemployment rates, and high transportation costs that eat into income.<sup>2</sup> For many, driving is the only way to compete in the labor market.

For 19 years, I lived near Merced and worked as an administrative assistant for a community agency but I still wasn’t even making \$2500 a month so I quit to be a contractor. I was stuck then—but now I’m still stuck! My territory is Tracy, Lodi, Stockton. My husband and I spend more than \$800 a month just getting to work—It’s like a house payment. I drive so much I know what it’s like for truckers. I’m tan on one side. --F Rosales, PGE contractor

The car is so central, and alternatives are so few, that Valley residents have created an informal transit system by using car pools and van pools to get around. In some Valley counties, residents use carpools to get to work as much as 40 percent more than Californians as a whole, according to ACS data. In a November 2013 survey of 28 agricultural workers, San Joaquin Valley Latino Environmental Advancement Project (SJV LEAP) found that approximately half carpool, reducing their transportation expenses to between \$120 and \$192 per month. Leveraging their social contacts to carpool is just one of the innovative ways Valley residents get around a difficult economic landscape. The magnitude of this hidden transit system has not been studied, but it runs the gamut from the regular work carpooling that is shown in the American Community Survey, to “old guys” who drive people from rural communities to hospitals and court appointments for a fee, to the “raitero” system among agricultural workers. CalVans, a public transit agency, started in Kern County and now serves 17 counties with more than 400 vans.

I have a 93 Toyota pickup with 260,000 miles on it. When I was driving to work I was spending \$20 a day, or about \$400 a month on gasoline. My wife had cancer and when I was using my pickup we had to cut her medications or food or our mortgage payment. So now I carpool, and that cut \$200 a month.--F. Yang, Social Worker

## Long Commutes and Low Wages

Poverty rates are over 30 percent in some Valley communities, but a significant amount of local income—and potential local spending—is trapped by transportation costs. The Bureau of Labor Statistics estimates that the average US household spends 15 percent of its gross income on transportation, but many working families in the Valley spend more than a third of their income on vehicle expenses. The Center For Neighborhood Technology estimates that households making \$36,866 in the Valley spend on average between 33 and 43 percent of their income on transportation, with a few areas of Merced and Tulare counties spending as much as 54 percent of their income.<sup>3</sup> (CNT considers 15 percent an “affordable” percentage of income to spend on transportation.)

A recent study by Alex Karner and Jonathan London at the Center for Regional Change at UC Davis used a more conservative calculation but still found that residents of some valley communities spend as much as 37 percent of

their household income on transportation.<sup>4</sup> Karner and London attributed this spending to a mismatch between the location of affordable housing and the location of low skill jobs, but their survey did not look at agricultural workers.

The informal survey of 28 field workers who live in Huron, Hanford, and Fresno conducted in late 2013 by Valley LEAP found that among families with cars, fuel, insurance, and repairs consumed an average of 29 percent of household income. Half of these families were spending more, however, and one worker was sinking 50 percent of her income on her vehicle.

Many families see bearing high auto costs as simply the price of survival, so they reduce spending on other necessities. Almost everyone Valley LEAP surveyed said they'd cut back on medicine, education, or food so they could keep driving to work. Transportation costs effectively reduce workers' wages—already low in this region—to a fraction of take-home pay. The average monthly income of workers in the Valley LEAP survey was \$1187. But those driving their own vehicles to work ended up having only \$842 leftover.

I've got a 95 Ford Explorer (15 mpg) and I drive down here to Huron from outside Mendota (115 miles roundtrip.) I spend \$400-\$500 a month on gas and \$50 a month on insurance. The smog test was this year. I had to pay for the test two times and then pay \$200 to pass. I pay my rent under pressure (\$900)—sometimes late. I tried to bring this car to the junkyard to get \$400 but the guy who sold it to me had two names on the pink slip and it



*Tomato Harvesters near Huron. Mr. Hernandez is on the left. The two men on the right carpool. Photo: Rey Leon*

would cost me \$650 to clear up the DMV issue to get \$400. So now I own an antique! I would love to get a little Honda. When school starts there will be more expenses: When there's fog the school buses don't run and my daughter needs a ride to high school, which is 10 miles away. We're making the investment in her so she doesn't miss out. -- L. Hernandez, Agricultural Worker

## Gas Guzzlers Are Money Traps

To understand how much money Valley families are really pouring in their tanks you have to look beyond the price of gas per gallon at the gas pump. What people pay for gasoline is a factor of the distance they travel from home to work, the fuel economy of their vehicle, and the price of gas per gallon.

A significant number of working families in the Valley drive cars with low fuel economy. This is partly a result of changes in the used vehicle market that have made the least efficient vehicles cheaper. Since 2008, more fuel efficient vehicles have sold at a premium, while the least fuel efficient vehicles have sold at a discount. In a recent report for the National Bureau of Economic Research, researchers found that when gasoline prices rise by a dollar, the price premium for a fuel efficient used car is \$2400 more than for a car that gets less than 16 mpg.<sup>5</sup> This fuel economy premium is four times more extreme in used vehicles than in new ones, increasing the disadvantage to lower income used car buyers. This is a relatively new development: For many years lower income families were most likely to buy efficient “econoboxes” cheaply, but in the last ten years market prices have flipped so that economy cars sometimes have higher resale values than midsized sedans.<sup>6</sup>

Owning a gas guzzler can drive a household into the red. The average fuel efficiency of US passenger cars for the 2013 model year is 35.6 mpg,<sup>7</sup> but the average age of the 13 cars driven by families owning cars in the study of field workers by Valley LEAP was 15 years, and their median fuel economy was 16 mpg. Looking at the chart below, it’s clear that owning an efficient vehicle—or having a very short commute—gives families an advantage that can add up to hundreds of dollars a month.

Owning bad car, however, can be like sinking in quicksand. In the case of the 1984 Ford F150, the truck is malfunctioning so it burns gasoline at more than twice the EPA’s rating. (The ARB estimates that 1984 vehicles emit 79 times as much pollution as a 2012 model year vehicle.) Maintenance costs also fall harder on lower income workers with older cars. A national survey of 2000 households in 2011 found that households making \$25-30K per year spent twice as much on auto repairs as those making \$50-60K.<sup>8</sup>

SJValley LEAP Survey of Agricultural Workers				
Car	Fuel Economy (mpg)	Daily Commute	Total Cost	Share of Income (%)
1999 Ford Expedition	13	74	\$604	50%
2002 Lincoln Navigator	13	120	\$592	49%
1984 F 150	(owner: 6) 14	20	\$457	38%
1999 Nissan Frontier	19	96	\$402	34%
2002 Honda Civic	29	144	\$442	29%
1999 Chevy Suburban	14	30	\$383	27%
1995 Geo Metro	28	62	\$300	20%
None/carpool		61 miles average	\$120-\$192	AVG: 15.7%

## No Credit = No Choice

Having access to credit allows car buyers to choose the mix of purchase price and operating expenses they can tolerate. But a very high percentage of Valley residents do not use banks for savings, checking or other financial



Valley is where the state's older cars come to die. "We're convinced the Valley is a black hole for older vehicles," one said.

Official calculations don't tell the whole story: An unknown number of cars in the Valley have failed smog checks and become unregistered. These unregistered cars are not part of smog calculations; they are not counted; and there is apparently very little enforcement of unregistered vehicles. Researchers Emily Wimberger and Matthew Zaragoza-Watkins looked into data collected by ValleyCAN, a 501(c)3 nonprofit that hosts free smog clinics. These clinics drew 9000 Valley vehicles and distributed \$500 smog repair vouchers to 5000 over the past two years. Using ValleyCAN's data, Wimberger and Zaragoza-Watkins verified that 40 percent of vehicles that came to clinics were unregistered, presumably because they had failed smog tests. Almost all of these vehicles were out of smog compliance but 12 percent of them were also gross polluters. These numbers suggest that the true impact of older and unregistered vehicles on Valley air may be even higher than previously thought. And while many of California's older vehicles are presumed to spend most of their time sitting unused, ValleyCAN's clients' vehicles are heavily driven, averaging 7000-9000 miles a year over the past two years.<sup>12</sup>

More troubling, 60 percent of the unregistered vehicles come from Environmental Justice census tracts, where residents are already exposed to high levels of air pollution from stationary or previously quantified sources. Not surprisingly, some of these neighborhoods are the communities with very high transportation costs mentioned in earlier sections. Unregistered clunkers are part of a vicious cycle that is making the Valley's poorest residents poorer and sicker.

Owners of the unregistered vehicles do not appear to be deliberate scofflaws, but are hampered by lack of cash and guidance for repairs. Valley CAN tracks the vouchers and has found once owners had a voucher for repairs nearly 67 percent were able to complete repairs and 88 percent of that group reregistered their vehicles.<sup>13</sup> The owners were highly motivated to clean up their cars and make them legal.

## The Problem with Current Approaches

By standard measures, ValleyCAN's voucher project is extremely successful: the organization is helping thousands of cars get repaired and reregistered and brought back into compliance. But this is only a temporary fix: Using statewide data, researcher Emily Wimberger and associates have found repairs make cars pass smog inspections in the short term, but two years later their effectiveness drops by 41 percent.<sup>14</sup> This highlights the bigger issue that goals for fixing cars may be too narrow to solve the deeper problem. State and private investments in repairs are enabling the survival of cars that are near the end of their lives by raising their value. From the perspective of air policy, this is counter-productive.

Below are three ValleyCAN clients interviewed in Madera on December 5, 2013. All three received vouchers for repair.

**1997 Nissan Quest (18 mpg) 240,591 miles on odometer**

I drive from Oroshi to Tulare every day, that's 50 miles. I've had this van for 7 years and the gas mileage is getting worse. I spent about \$3000 last year on repairs. The problem is that I smell gasoline. (He spends \$490/month on gas and repairs.) I've thought about scrapping the car but \$1000 isn't enough. I might trade it in for \$3000, and for \$4000—definitely. I would trade it for a smaller car—I think my credit union offers 2.9 %.

**1985 Chevy Silverado (15 mpg EPA estimates) 289,000 miles on odometer**

I do construction between Fresno and Chowchilla and this is my heavy duty truck. My wife drives an Odyssey. We spend \$120 a week on gasoline—it hurts. (\$480/month) I'd like to get something more economical but my credit is bad—I'd expect 25 % interest but I think less than 10 % is reasonable and fair. It's not worth it to scrap this vehicle for \$2000 because of insurance and taxes and also because they don't make cars as good anymore. For \$4000 I'd consider it.

**1991 Isuzu Pickup (EPA estimate: 18 mpg)**

I need this car to get to work, about 10 miles a day, but I spend about \$40 on gas a week and our other car is \$60 a week. (\$400/month.) It's insured but it won't pass smog so it's been unregistered since 2011. I would definitely trade it for \$2000. I could do a car payment of \$200-250. That would be great. (This vehicle's emissions were so high technicians removed the sensing wand from the tailpipe to avoid damaging the wand.)

These interviews, and other data from Wimberger and Zaragoza-Watkins, demonstrate the distinct market failure posed by the combination of long commutes, high gas prices, old cars, and lack of credit. From an objective economic standpoint, these drivers' spending on their vehicles seems irrational: Those interviewed above spend so much on fuel and repairs that if they had easy access to credit they could make car payments and still save money simply by switching to newer vehicles with higher fuel efficiency. As of February 2014 Carmax of Modesta listed a 2008 Kia Rio (35 mpg highway) for \$8000 and a 2008 Toyota Yaris (39mpg highway) for \$10,000. With help with downpayment or interest rate, either car could be financed for \$200 a month and would provide significant fuel savings and a massive drop in tailpipe pollution. But for these families, current spending on gasoline is so high that spending more to save might not be possible. In a recent survey of ValleyCAN clients in Porterville, Wimberger and Zaragoza-Watkins found that the average vehicle worth was estimated at \$2440, which shaped how clients thought about what kind of incentive they'd need to retire or replace their vehicle. With sufficient incentives, 60 percent said they'd like to replace their vehicles, of which 95 percent said they'd be interested in financing.<sup>15</sup>

Getting these vehicles off the streets will require a more creative approach than simply increasing incentives to \$4000, however. According to a November 2013 staff report by the Air Resources Board on the Enhanced Fleet Modernization Program (EFMP), a 2013 pilot program in the South Coast offered vouchers of up to \$4000 to replace 1372 targeted polluting vehicles with cleaner ones. but got only 21 takers, possibly because of the low incentive amount and because owners needed to coordinate between two private and two government entities.<sup>16</sup> Some vouchers are clearly too low: the current CAP scrappage program, which offers up to \$1500 to low income owners to retire vehicles, seems to inadvertently steer incentives to cars that are at the end of their lives and rarely used. A



recent survey of 164 cars that received \$1000 incentives at two Southern California auto dismantlers discovered that most required significant expensive repairs—29 percent of them were not capable of driving 25 mph—and thus were worth less than the voucher.<sup>17</sup> Another barrier is credit access: The 2009 federal scrap and replacement program, Cash For Clunkers, ended up funding the well-off. That program offered vouchers of \$3500-\$4500 to swap older inefficient vehicles for more efficient new ones, but in the middle of the recession lenders were only offering credit to people with very high credit scores. Participants in that program had a median before tax income of \$69,000, according to an analysis by the Brookings Institution.<sup>18</sup>

Getting highly polluting vehicles out of lower income neighborhoods is a different and more ambitious project than current scrappage and vehicle replacement programs. Overcoming these social, financial, and environmental hurdles will require creative collaboration between regulators, as well as banks and credit unions, community organizations, non-profits, and auto dealers. While there are many different organizations and models that work elsewhere—detailed in the next section—there is no single solution.

## A Guide to Policy Approaches

In 2013 the legislature extended funding for EFMP program through 2024, and SB459 (Pavley) directed changes in the program to increase funds for low-income vehicle owners to get a better mix of air quality improvements and participation from the program. The passage of SB459 has started a discussion about starting pilot programs to scrap and replace some of the most polluting vehicles in the Valley.\* I have spoken with dozens of stakeholders in the Valley and many more people active in the space across the state and the country to get an idea of what has worked and what could work. The rest of this report summarizes this research and highlights how it could be applied here.

The final part of this report looks at how policy makers can support and encourage the Valley's existing network of carpools and van pools. From an air quality, carbon abatement, traffic, and cost perspective, carpools and van pools are cheaper, cleaner, and less congesting alternatives to single cars. Most importantly, having access to shared rides or mass transit gives workers a choice in how much of their income they spend on transit and how many cars their family needs to survive. Valley residents have invested significant time and social capital in creating these shared resources, and policy makers should encourage them to expand, increase their impact and be a model for other parts of the state.

### Framing the Discussion

While there's agreement that California's current scrap and replacement program needs to be changed, there is no agreement how to do this, starting with the size of the incentive or who gets the incentive—the driver, auto dealer, or lender. It's also not clear who would run such a program since it seems outside the scope of the current regulatory agencies. Much needs to be decided. Here are a few thoughts to reframe the discussion:

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\* For an in-depth look at the regulatory landscape and repair and replacement policies, please see The Next Generation.org's framing document: ["No Californian Left Behind: Clean and Affordable Transportation For All Through Vehicle Replacement,"](#) February 2014.

- Invest in outreach: Every program that has worked with low income drivers in the Valley says consistent funding for outreach is important to reach the right drivers and cars and also to overcome suspicions.
- Invest in data collection: Current programs struggle to measure effectiveness because there is little data about the total pool of vehicles, their owners, and their environmental impact nor is there follow-up data on repair effectiveness, vehicle replacement, or driver outcomes. Data gathering is essential to measure performance, design new programs, and (if carbon and pollution improvements can be verified) could become a part of program finance.
- Encourage multiple approaches: Administrators will need flexibility on registration requirements and target vehicles. Lending programs will need to vary to suit drivers' needs. Some drivers are eligible for standard sub-prime and deep sub-prime loans from community lenders. Those who don't meet those standards may benefit from loans from non-profit lenders with credit repair programs. Some drivers may not qualify for any loans and may require some sort of assisted leasing program.
- Focus on lowering monthly payments to a manageable level by combining incentives with other state tools. Turning incentives into hefty down payments is one way to reduce monthly auto payments, but there are other ways to leverage a larger effect. The state can reduce lenders risk by providing loan loss coverage; states and counties can reduce sales taxes on vehicles; state low-cost insurance plans can be used and supplemented; regulatory incentives can be used to "buy down" interest rates; verified pollution and carbon reductions may be sold as offsets. An ambitious loan program could be expanded to assist in the adoption of lower and zero emissions vehicles statewide.

### **Outreach and Data: The Valley Experience**

The relevant issue for replacing cars may not be the size of the incentive, but the way the program is designed and marketed. From 2007 to 2009 the San Joaquin Valley Air District operated a vehicle retirement and replacement program targeting more than 4000 of the highest polluting vehicles on the road and offering \$5,000 toward the purchase of a newer vehicle meeting the latest emissions standards (as a separate program component from the \$1,000 retirement incentive for eligible older vehicles). Vehicle owners were invited through a direct mail campaign that used an innovative first-of-its-kind screening approach based on smog check program data to select vehicles with histories of emissions failures. A low response rate to the direct mailings led the District to update its approach and outreach campaign. To increase participation in the program, particularly from the Valley's low-income communities, the District expanded the screening and eligibility criteria to make it easier for residents to identify feasible vehicle options available under the program. Additionally, a revamped bilingual outreach campaign established a recognizable program brand across a broader spectrum of the Valley's population. In less than a year, the program retired 706 vehicles, with 202 of those vehicles replaced through the larger replacement incentive.

**Vehicle Repair, Retirement, and Replacement for Motorists (VRRRM)** is a project of the Foundation for California Community Colleges that has partnered with the ARB, the BAR, SJV Unified Air Pollution Control District, and South Coast Air Quality Management District. Launched in 2010 with funds from the Reformulated Gasoline Settlement, the program handled more than 11,000 calls, issued vouchers that lead to 11,400 smog repairs, retired

3263 vehicles and replaced 2152 before winding down after 18 months—half the time expected—when funding ran out.

Mark Carlock, director of Air Quality Programs at the Foundation, feels that existing replacement programs need to be dramatically changed—according to his analysis they currently go to wealthier zip codes, and they are failing to pick up the cars that pollute the most. Reaching low income drivers requires a different approach, more money for outreach and specific efforts to overcome distrust. The Foundation has used community colleges and auto repair programs for outreach, has operated a multilingual phone line, and done grassroots work to overcome drivers suspicion of “big brother,” to operate repair programs. Replacement, Carlock says, is much harder because low income buyers may not meet registration requirements and then find a vehicle that suits their needs, fits their ability to pay, and meets the air and efficiency standards set by the state—under the current design of these programs these constitute “insurmountable obstacles.”

Carlock believes more aggressive swap programs could be financed through pollution mitigation initiatives, such as those for power plants. He has explored two possibilities: Increasing incentives and making arrangements with auto dealers so that the incentives can be used as a down payment; buying a fleet of used cars and essentially giving them to low income drivers. Both of these ideas have encountered administrative hurdles.

**Valley Clean Air Now (Valley CAN)** is a 501(c)3 non-profit that funds programs to reduce pollution in the Valley and also runs weekend smog testing and repair voucher clinics in the Valley every two weeks, attracting nearly 500 cars to each one. Working with the SJV Pollution Control District, Valley CAN has invested heavily in outreach since 2008 with full-time organizer Jose Marin, who has deep ties to Valley radio stations, communities, and religious organizations. At a Valley CAN Tune In and Tune Up event the impact of this investment is clear—people in ragged cars show up the night before to wait in line, and by 6 am the line for admission can stretch for blocks. Valley CAN has bent the rules on registration with the aim of bringing more unregistered vehicles into compliance with a success rate of about 88 percent in 2012 among those who were able to complete repairs with a voucher. Two years ago the organization began gather data, with funding from the SJVAPCD, for researchers Emily Wimberger and Matthew Zaragoza-Watkins to study the impact of repairs and total population of vehicles. This data, which revealed the potential size of the unregistered fleet in the Valley, has convinced founder Tom Knox that Valley CAN should try to remove the 25-50 worst vehicles from the road and replace them with cleaner ones at every event. Clients, he says, often want out of their old, expensive vehicles. “The vehicle emissions problem has been swept under the rug. The damage done by this invisible fleet counterbalances any Zero Emissions Vehicles programs.” He wants to use the organization’s considerable outreach to bring auto dealers and lenders together as a one-stop-shop to scrap and replace vehicles, leveraging the impact of incentives of \$5000 or so.

### **The Importance of Program Design: The Low-Income Auto Lending Landscape**

Traditionally, auto retirement and replacement programs have been based on the concept of a voucher, which is given to auto owners when a car is scrapped. However, the costs of outreach for this are high and if the voucher doesn’t clear quickly it doesn’t work well as a down payment. To make programs more efficient, some — like Texas’s Low Income Vehicle Repair, Retrofit, and Retirement Program—have offered up to a \$3500 voucher through car

dealerships as a down payment, letting dealers recruit new customers. Buyers had to demonstrate that their household's net income was less than 300% of federal poverty level, which was \$66, 150 for a family of four. Between 2007 and 2010 the program replaced more than 36,000 vehicles with new and newer used vehicles, but staff are unsure about the income distribution of the families served by the program.<sup>19</sup> In addition, consumer advocates caution against awarding the power of the vouchers to auto dealers because they may capture more of the value than consumers. Non-profit lenders in the space also caution that dealers have the ability to substantially mark up used cars, which also disadvantages buyers, as detailed below.

While the size of incentives is the most salient issue for regulators, it's not what's important for vehicle owners. In making the decision to scrap and replace a car, vehicle owners are more concerned about the combined cost of finance, insurance, fuel and repairs on a monthly basis. Concentrating on lowering these total monthly expenses for finance, fuel, and insurance gives regulators more tools to craft a successful program. Raising incentives is not sustainable, does not appear to make programs more effective, and it has risks. To build a more scalable program regulators should look at combining incentives with other state tools such as loan-loss funds, cap and trade and other carbon mitigation funding, and state low-cost vehicle insurance to bring down the total cost of monthly payments. Limiting eligible vehicles by fuel efficiency, reducing dealer markups, and encouraging more flexible transit options so that families can control their transit expenses is another crucial part of making scrap and replacement programs effective.

Giving careful thought to the design and purpose of a lending program is particularly important because this field is changing so fast. Listed below are Valley community lenders as well as two national non-profit lenders —each with different program designs. New players are entering the space, driven partly by technology that is lowering costs, and partly by the opportunity to work in secured auto loans, which are far less risky than other lending. Thus, the types of services available now do not indicate what may be available in the near future. An ambitious program in California will be in a position to shape future loan offerings. To read more on this shift in the auto lending market, see publications from the Center for Financial Services Innovation<sup>20</sup> and Arjan Schutte.<sup>21</sup>

### **Community Lenders in the Valley**

Lower income customers with no credit history have few choices for financing and are often asked to pay very high interest rates, but they are not necessarily bad credit risks when given fair terms. A 2008 survey of credit unions making non-prime auto loans found consensus that defaults were not high, and one lender mentioned that lower income customers were more likely to pay on time than their counterparts with higher credit scores.<sup>22</sup> In general, auto loans are low risk, because they are secured, in the sense that if the loan amount is lower than the value of the car the lender can always repossess the vehicle. (Auto loans where the loan exceeds the value of the car are a different matter.) Credit unions working with subprime and deep subprime customers generally use different ways of determining ability to pay, and different outreach to ensure that customers keep up with payments than commercial auto lenders.<sup>23</sup>

**California's Self Help Federal Credit Union** has branches throughout the state, including Modesto, Riverbank, Porterville, Lamont, and Bakersfield where they make auto loans at the rate of approximately 65 per month in the Valley. Banking rural and low-wealth families and communities is central to Self-Help's mission and they make

loans based on clients ability to pay the loan—proof of income, proof of having paid utilities, residence stability— in addition to standard measures like credit scores,. They offer auto loans at between 3 and 17.25 % interest. Loan officers have relationships with new and used auto dealers in the Valley.

Bank staff would be interested in lending to drivers as part of a swap program, but had a few caveats. If the state decides to stay with an incentive voucher model, it's easiest for borrowers to simply bring a check to an auto dealer for a down payment. But if vouchers cannot be cleared in time to act as payment the vouchers would need to run through an escrow account where the bank covered them. One issue with incentives is that it's important to be sure that dealers don't capture most of the incentive. SHCU uses relationships with dealers to get better terms for its clients while other credit unions use a car buying service which is often done through a Credit Union Service Organization, or CUSO, which has a collaborative economic relationship with the credit union. A replacement program that allows only some vehicles that meet air quality and efficiency standards would need to be clearly defined to avoid confusion. If a non-profit were working to make the process smoother, that nonprofit would need to be empowered to make decisions: having banks, clients, and dealers “go back and forth” doesn't work in their industry.

**Fresno's Economic Opportunities Commission (EOC)** is a private, non-profit Community Action Agency, founded in 1965 with a large presence in the region. Fresno EOC is starting a community development credit union with a mission to serve low income communities. Start-up CEO Rick Leas says the credit union will be doing auto loans in the future. They would be interested in working with a retire and replacement incentive program.

### **National Non-Profit Auto Lenders**

**More Than Wheels** is a New England based non-profit that brokers vehicles and low-interest credit union loans to drivers with low incomes and poor credit as part of a credit education and repair initiative. Started in 2001 by a car salesman, More Than Wheels quantifies the environmental benefits of their clients new cars, but their primary focus is improving their financial stability. Average client income is between \$20,000 and \$40,000 and more than half report that their incomes rose through the program, and many were able to leave food stamps. Clients report feeling more in control of their finances and have better access to food and health care. Since 2001, they've worked with more than 2000 families, avoiding more than 68,000 tons of carbon emissions over the life of the cars they've financed (compared to clients' original vehicles.)

The organization now serves about 300 clients a year who must first take financial education class and repair their credit before MTW finds them a new or lightly used car, a credit union loan with 3-5 percent interest as well as insurance and a maintenance plan. Average monthly total payments range from \$250-\$300, depending on the program and the car. MTW then stays in touch with clients through the term of the loan. Defaults are 5 percent but actual monetary losses are 1.7%, because the loans are never underwater.

More Than Wheels does “predictive analytics,” and tightly limits cars to those with low fuel and repair costs and good resale values: generally four door sedans. Another way they reduce costs is to use state matching funds through a New Hampshire program called the Community Development Finance Authority, which essentially allows the non-profit to apply for tax credits from the state and then sell them to for-profit organizations needing tax credits for

funds. They sometimes rent clients “bridge vehicles” while they build credit and have recently instituted a savings program that allows people to build credit and confidence while saving for a down payment. The model works well for the clients, but the organization has struggled to contain the costs of working with individual clients so they can scale up and reach more people. Recently they’ve begun doing the credit counseling on the web and on the phone.

**Ways To Work** is a Milwaukee-based non-profit Community Development Financial Institution with 44 offices nationally that has helped 34,500 families with auto loans and financial literacy classes. The organization makes loans and services them themselves with local community organizations making decisions about which clients to enroll. Ways to Work has more experience—across more loans and more states—than anyone in this space. Their model has changed significantly over time—in 2006 their average client income was less than \$12,000. Today client incomes average \$24-25,000. In a 2011 survey, more than half saw their incomes rise after getting a car loan and 80 percent leave TANF behind for good after having been on it previously. Ways to Work has worked with a model that varied over the years but essentially contracted with auto dealers, set interest rates at 8 percent, and limited loan amounts to \$8000 over 36 months. Defaults were low but varied by office, which suggested that followup plays a big role in how well clients do. Ways To Work evaluations also indicated a high correlation between personal coaching and long-term success.

Over the past few years the organization has evaluated their internal data to figure out a model that they can offer to wider range of clients. In reviewing relationships with auto dealers, they realized that some were charging markups on wholesale prices of used cars of 68 to 86%, which was increasing clients’ costs. They’re now looking at a sliding scale loan ranging from 12.5% to 14% for loans that would be 17% to 28% commercially. They also plan to increase the range of loan options up to \$15,000 and 60 months. However their clients also get the benefit of Ways to Work’s deals with car dealers who have limited their markup to 20% over the wholesale value plus a \$600 reconditioning fee. Dealers also add a 24 month warrantee without tacking on a dealer markup. Ways To Work believes that they can secure better vehicles at better prices this way. Combining this with their loan program, very low income clients can get access to high quality vehicles for payments of \$200 to \$340 per month.

President Jeff Faulkner strongly discouraged applying large incentives towards down payments, cautioning that clients with few sources of income may be inclined to sell the car and pay off the loan to recover the incentive. Ways To Work has seen this happen in programs in California and elsewhere. It’s more productive, he says, to use the incentives to either pay down the loan, or award them through loan forgiveness at specific thresholds of repayment. What this means is that if clients make payments on a loan for, say, 36 months, the incentive fund could make their final year of payments. Another alternative is to focus on reducing monthly payments by paying down the interest rate. (For example with a \$12K 48-month loan, reducing the interest rate from 13% to 9% will reduce the monthly payment from \$322 to \$299. The difference in total payments over the life of the loan would be \$119, which an incentive fund could simply pay.) It would be even more effective to limit the size of dealer markups, as Ways To Work is doing, though dealers need to be fairly compensated, and higher efficiency vehicles are difficult to find in the market right now. Faulkner cautioned that large upfront incentives “get too much into the auto grant business, which is fraught with problems and creates mixed incentives.”

## Households Not Eligible For Loans

There are likely to be households who cannot qualify for even the non-profit loans. Since the 1990's Welfare-to-Work programs a wide number of non-profits and community organizations have experimented with ways to get cars into the hands of people with very little income or credit. For an excellent summary of approaches and case studies see the National Consumer Law Center's new *Shifting Into Gear* report.<sup>24</sup> In very broad terms, the programs based on donated vehicles have struggled to sustain themselves because the quality of donated vehicles has fallen over the years.

**Contra Costa County** operates one of the few successful government-run loan programs in the country by partnering with a local credit union to offer 7 percent interest on loans of up to \$4,000 over 24 months.<sup>25</sup>

**Room for innovation: Rentals and lease-to-own:** A county or community organization could potentially run a rental or leasing program—similar to More Than Wheel's "bridge cars,"—allowing clients to save money and build credit until they can get a standard loan. Some California counties already run fleet leasing programs for county agencies. California's innovative online charity and peer-to-peer lending initiatives may offer a way for the well-off on the coasts to contribute to Valley sustainability. Potentially, such a car program could be part of a power plant or stationary source pollution mitigation project. Or, if it reduces social costs, the project could be part of a social impact bond.

## State Mechanisms That Could Be Packaged To Lower Monthly Payments

- **Loan Loss Reserve or Loan Portfolio Insurance:** The California State Treasurer's California Pollution Control Authority has a fund called California Capital Access Program ([CAL CAP](#)) that provides loan portfolio insurance to encourage banks to assume the risk of certain portfolios of loans. For example, the fund covers a percentage of loan defaults to encourage lenders to make loans to trucking companies upgrading trucks under the ARB's On-Road Heavy Duty Vehicle Program. Such loan loss insurance removes much of the risk for lenders, so it can be used to encourage unusual loans or reduce interest rates.
- **Sales tax forgiveness:** State taxes on vehicle sales are 6.25% and are followed by county and city taxes of several percentage points. Reducing them would reduce car payments.
- **Insurance:** California has a lifeline insurance program that offers liability insurance to drivers at 150 percent of the poverty level at very low rates of \$23 a month or less (\$276 yearly) in the San Joaquin Valley counties.<sup>26</sup> When an auto is financed the driver needs comprehensive insurance to protect the investment. Comprehensive may be added to the lifeline insurance.
- **Carbon or Pollution Offsets:** California currently doesn't have a protocol for measuring fleet emissions improvements for trading in the state's carbon emissions market. However, there are protocols for the process established for international use—the Clean Development Mechanism. Using this protocol, an interested party could work with one of the state's two approved carbon registry organizations to develop a methodology to aggregate emissions improvements in a fleet and eventually trade them in voluntary

markets. Successful verification of carbon savings could also build a case for using AB32 cap and trade funds.

- **Social Impact Bonds** encourage investment in seemingly intractable problems that cost the public sector money. So far they've been used mostly to spur investments that keep youth from returning to prison. Investors make money if they can invest in programs that save the government money.<sup>27</sup> Fresno is home to a pilot health-oriented social impact bond that aims to keep kids out of the ER for asthma attacks by investing in upgrading their homes. The pilot is supported by Cal Endowment. Social impact bonds require heavy lifting from specialized firms and require grant money to start. If a sizable group of residents were found to be on public assistance, perhaps a clean auto program could be used to help them out. Obviously, such a program would also require that California exercise its option to waive the limits on vehicle value for recipients of welfare payments such as SNAP.

## The Potential of Flexible Transit

Valley residents have leveraged their social capital to create informal transportation networks that should be a model for other parts of California. Shared transit reduces household costs and reduces traffic congestion. It's also a remarkably effective tool for reducing greenhouse gas emissions: On a per passenger vehicle mile basis, vanpools can reduce greenhouse gas emissions by 77 percent compared to single drivers in a private autos, and provide a significant improvement over even bus and light rail.<sup>28</sup> Census data shows that carpool use in some Valley counties is 40 percent higher than the state average. Usage of carpools and "raiteros" appears to be very high among agricultural workers, but there are also other variants: "Old guys" in some towns offer rides to doctor's appointments and court dates. Markets in Merced offer van rides home for customers who've spent more than \$25. The Valley is also the incubator of CalVans, a tremendously successful van pool program that has grown since 2001 to serve 17 counties.

The importance of shared rides in the Valley is understudied, but it should not be underestimated. Having access to shared rides gives households control over family expenses, allows them to own and operate fewer cars, and gives them access to many more jobs. In interviews, carpooling is sometimes described as part of a social contract between extended family members, and the key to family self-sufficiency. At a Fresno non-profit, one woman explained her family's complicated web of intergenerational ridesharing by saying, "The bus is for people without family. " Shared rides provide a crucial link for people who have no transit whatsoever: In the Valley's four largest cities, more than 70,000 households have no car, of which at least 10 percent have no access to public transit, according to 2011 report by the Brookings Institution.<sup>29</sup>

What's fascinating about Valley's homegrown transit fleet is that it appears to be years ahead of the national curve for adopting shared rides. Some studies assume lower levels of national shared rides by 2050 than the Valley has in practice today. What's more, these studies anticipate very low uptake in rural areas with small populations—precisely where it thrives in the Valley.<sup>30</sup> Despite shared transit's benefits, it falls below policymakers' radar and it doesn't have a concentrated interest group to push its agenda. With official support and study of its success, shared



transit could increase its reach in the Valley. If, on the other hand, shared transit is allowed to wither, it will impose higher costs on households and the Valley's economy and environment. In the worst case scenario, it could run counter to an effort to replace old polluting cars by necessitating that more households own two or more cars. Policy makers should work to make incentives for both riders and providers of shared transit appropriate and also encourage Valley communities to experiment with providing more transit options. The town of Huron, for example, is looking into how to organized share rides to Fresno courts, the children's hospital in Madera, and education in Fresno as a way to link residents to the wider economy of the Valley.

**California Vanpool Authority (CalVans)** got its start in 2001 as vanpool under the auspices of the Kings County Public Transit Authority. In 2012 it became a separate agency with a budget of \$8.5 million that runs 275 regular commuter vans and 150-200 agricultural vans, which are self-supported and self-driven by riders. In fiscal year 2011-2012, CalVans provided 1.9 million trips with a greenhouse gas savings of 28 thousand tons, while saving riders \$38 million dollars on transit.

The vans are particularly important in agricultural communities, where affordable transit allows workers to travel from the Valley to fields in Napa county and Salinas to participate in harvests. While state and federal workers get considerable subsidies for riding van pools—\$65 from the state and \$125 from the feds—agricultural workers rarely qualify for even a \$30 voucher from CARB because they're moving around too much. Some growers now give incentives to workers to take the van pools. Nonetheless, the full cost of the transportation falls upon the riders of the vans. Founder Ron Hughes estimates that van pools from the town of Hanford alone are saving workers there \$11 million per year.

Since becoming an independent agency, CalVans has grown and expanded its use of technology for tracking vans and passengers. Without outreach money, the program is mainly promoted through word of mouth. The inability to secure reliable funding for the eventual replacement of the vans used by farmworkers creates uncertainty for the future. Hughes estimates that with better funding the organization could grow by 30 percent a year, and drop prices on transit significantly. In addition, he would like to try more experimental shared ride services for communities. As a public transit agency CalVans reports its passenger trip data to the National Transportation Database, an act that generates over \$4 million in federal funds to local transit agencies in the areas where its vans operate. CalVans receives none of that funding nor has any authority to claim it. Changing the structure of incentives so they more closely align with success could enable faster growth in programs like CalVans.

## **Other Models**

**Dollar Vans:** The largest flexible transit provider in the country is the loose, privately-owned network of "dollar" vans running in Brooklyn and Queens.<sup>31</sup> To work as an entrepreneurial shared transit service, Dollar Vans requires drivers who are well known in the community, a community that feels comfortable with shared vehicles, and a system of enforcement that is both strict and fair. Dollar Vans, though, provide personalized service beyond that offered by public transit. Drivers will often hold the van while a parent drops a child off at daycare, for example. The vans also discover demand for new transit routes—such as express service between some of New York's Chinatowns—saving riders considerable time over subway routes that were defined decades ago.

**WEST CAP** is a Community Action Program based in Wisconsin that has funded both entrepreneurial vans and shared vehicles for housing clusters—giving residents rides to school and hospital appointments. The costs are partly reimbursed by federal funds and they create jobs by paying local drivers.

California has a large and innovative finance community that could be encouraged to work with local organizations to establish new types of flexible transit. Opportunity Fund, a California-based CDFI and nationally-recognized leader in micro finance and micro-lending, makes loans to thousands of state entrepreneurs yearly. The organization encourages interested communities or entrepreneurs to apply.

## Conclusion

The Central Valley's combination of aging vehicles and struggling commuters provides a clear opportunity for policy makers to design a program that combines environmental gains with financial stability for struggling families. Creating policies that overcome barriers to give them more choices—by designing credit initiatives to help them buy cleaner cheaper cars and by fostering the region's car and vanpool networks—will improve the Valley's air while stimulating its economy. Effective programs to get lower cost, lower emissions transportation to the Valley can then be scaled up to reach a broader swath of Californians as the state continues to comply with the greenhouse gas reduction goals of AB32.

By contrast, attempting to reduce the price of gasoline, either by changing policies or reducing taxes, is not a workable option. The Valley's air quality issues are partly caused by geographic constraints, traffic volume, the burning of fossil fuels, and broken and outdated emissions technology on aging vehicles. Reducing local gasoline prices—which may not even be possible given world gasoline markets—would only encourage more gasoline consumption, more traffic congestion, and more pollution in the Valley's air basin without addressing the vehicles themselves. Only swapping out older cars and finding ways to reduce the total quantity of gasoline that Valley businesses and residents burn will improve air quality, reduce carbon emissions, and free up more local spending at the same time.

Programs extending credit and incentives for vehicle replacement and shared rides to working families also fill an important hole in current policies around greenhouse gas emissions. A broad slate of local, state, and federal climate policies are generally aimed at changing behavior and choices by increasing prices; but they overlook how that may affect working families. The low carbon fuel standard, a national carbon tax, pay-by-the-mile road fees, congestion pricing, and parking fees are all designed to increase the cost of commuting by car, leaving those with lower incomes, less access to credit, and fewer options for housing to bear even greater expenses to travel to work. Another raft of policies, including SB 375, are aimed at changing development patterns reduce vehicle miles traveled. A 2011 report by PPIC warned that the state's emphasis on Transit Oriented Development can encourage the construction of higher cost housing near transit without increasing transit ridership.<sup>32</sup> Valley organizers fear that careless implementation of these policies may exacerbate the divide between the well-off and the working poor.

Greenhouse gas and emissions policies that fail to address the barriers lower income households face are not only inequitable, but also ineffective. California's investment in rebates for electric vehicles has largely gone to the coasts.<sup>33</sup> A 2011 report on 4000 Nissan Leaf buyers found they had average credit scores of 750, combined household incomes of \$140,000 and drove less than 60 miles per day.<sup>34</sup> Unfortunately a single 1984 F 150 truck undermines the comparative emissions savings of dozens of electric vehicles. There are thousands of drivers in the Central Valley and elsewhere who are driving similarly highly polluting vehicles more than 60 miles a day, without either the credit or the means to access state subsidies.

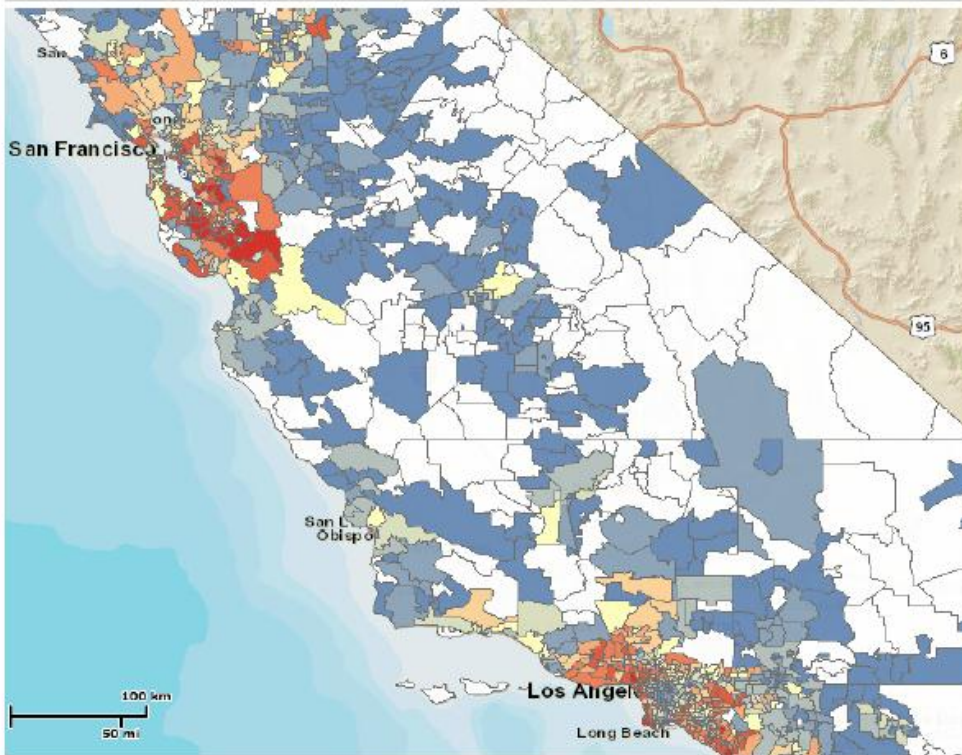
Policy makers should design ambitious "double green" policies that offer both environmental and economic dividends. By doing so, the state can leverage relatively small amounts of money for large

environmental gains accompanied by a significant increase in financial stability for struggling households. Thoughtful policies can also make partners of households who are already highly motivated to change their habits to save money, and can use the resources of the Valley to spark greater innovation. Giving families a choice of how and where they travel, which vehicle they drive, and how they spend their income is a major step towards building a green constituency for the future--and a healthier, more prosperous California.



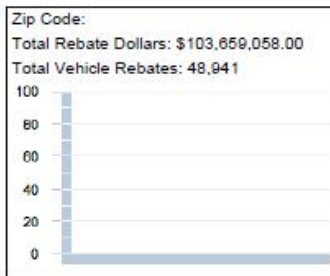
# Rebate Distribution Map

Report Generated On: March 16, 2014



Map Legend by Zip Code (Vehicle Rebates):

0	66 - 86
1 - 5	87 - 127
6 - 13	128 - 200
14 - 23	201 - 750
24 - 34	
35 - 48	
49 - 65	



The California Center for Sustainable Energy (CCSE) administers California's Clean Vehicle Rebate Project (CVRP) funded by the California Air Resources Board. The goal of the CVRP is to promote the production and use of zero-emission vehicles, including plug-in electric (PEV) and fuel cell vehicles. Learn more about vehicle rebates by visiting: <http://www.energycenter.org/CVRPrebateMap>

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## About the Author

Senior Research Fellow Lisa Margonelli previously published EnergyTrap.org while with the New America Foundation in 2010-2011.



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