

California Energy Commission
STAFF REPORT



**LOCALIZED HEALTH IMPACTS
REPORT**

For Selected Projects Awarded Funding Through the
Alternative and Renewable Fuel and Vehicle Technology
Program Under Solicitation PON-08-010

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PREFACE

The increased use of alternative and renewable fuels supports the state's commitment to curb greenhouse gas emissions, reduce petroleum use, improve air quality, and stimulate the sustainable production and use of biofuels within California. Alternative and renewable transportation fuels include electricity, natural gas, biomethane, propane, hydrogen, ethanol, renewable diesel, and biodiesel fuels. State investment is needed to fill the gap and fund the differential cost of these emerging fuels and vehicle technologies.

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (Program). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008) authorizes the California Energy Commission to "develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies." The Energy Commission has an annual program budget of approximately \$100 million.

The statute also directs the Air Resources Board to develop guidelines that apply to the program to ensure the programs complement efforts to improve air quality. The Air Quality Guidelines were approved in 2008. California Code of Regulations, Title 13, Chapter 8.1, Section 2343(c)(6) contains the requirement for the Energy Commission, being the funding agency, to analyze the localized health impacts of projects funded by the program that require a permit.

ABSTRACT

California Code of Regulations, Title 13, Chapter 8.1, Section 2343(c)(6) requires the Energy Commission to consider the localized health impacts and environmental justice when selecting projects for funding. For each funding cycle, the Energy Commission is required to analyze localized health impacts for projects proposed for program funding that require a permit.

This report is a review of the infrastructure projects submitted under the American Recovery and Reinvestment Act cost-share grant solicitation and proposed for funding under the Alternative and Renewable Fuel and Vehicle Technology Program for Fiscal Year 2009/2010. The report includes a description of the projects, criteria emissions data for the fuels associated with the projects and demographic data for the areas where the projects will be located, and an analysis of the impacts of these projects in communities with the most significant exposure to air contaminants or localized air contaminants. Future editions of this report and its aggregate location analysis will include information about projects approved in previous funding cycles including those projects for which specific location information was not previously available.

The specific projects analyzed in this report are:

- Sacramento Municipal Utility District/General Motors Electric Vehicle Infrastructure and Chrysler Electric Vehicle Infrastructure (two projects)
- Nissan Electric Transportation Engineering Corporation Electric V Infrastructure
- Coulomb Charge America Electric Vehicle Infrastructure
- San Bernardino Association of Governments Alternative Fuel Project
- Department of General Services and Propel California Low Carbon Fuels Infrastructure Investment Initiative

Keywords: California Energy Commission, AB 118, localized health impacts, environmental justice, funding cycle, emissions, criteria emissions, air quality, greenhouse gas emissions, reduce petroleum use, improve air quality, alternative fuel, electricity, natural gas, biomethane, propane, hydrogen, ethanol, renewable diesel, biodiesel fuels

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CHAPTER 1:

Background

The California Energy Commission is preparing to approve a series of projects through the Alternative and Renewable Fuel and Vehicle Technology Program (Health and Safety Code Section 44272). The Energy Commission developed this report to comply with the Air Quality Guidelines¹. The section applies to all projects that require a permit and reads:

(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.

The Air Quality Guidelines section requiring this analysis was put in place to ensure that, by funding the projects, the Energy Commission is both analyzing the potential beneficial impacts to communities with the most significant exposure to air contaminants, and not supporting projects that result in disproportionate health impacts in communities with low-income or minority populations.

Currently, there are six projects proposed for Energy Commission approval that require a permit; four electric vehicle charging station proposals, one natural gas fueling station and vehicle deployment proposal, and one ethanol (E-85) fueling station proposal. Each of the projects proposes fueling infrastructure in more than one site. Many of the proposed electric vehicle (EV) charging stations will be upfits of existing EV charging stations, further reducing cumulative impacts.

The following is a discussion of the localized health impacts of the projects being proposed for Energy Commission approval. Energy Commission staff plans to present the proposed projects for approval at Business Meetings (subject to the Warren-Alquist Open Meeting Act) in June 2010.

This analysis is not intended as a substitute for the California Environmental Quality Act (CEQA) process. The application of CEQA will take a more detailed look at the potential environmental impacts of the proposed projects. Instead, this report is intended to collect available information about the potential beneficial and adverse air quality impacts of the projects that the Energy Commission is funding through the Alternative and Renewable Fuel and Vehicle Technology Program, and provide an aggregate, narrative analysis of localized health impacts of those projects. Some projects do not have precise locations identified at the

¹ Regulation for the AB 118 Air Quality Guidelines for the Air Quality Improvement Program and the Alternative and Renewable Fuel and Vehicle Technology Program, California Code of Regulations, Title 13, Chapter 8.1, Section 2343(c)(6), 2008

time the proposal was submitted impacting the Energy Commission's ability to evaluate the aggregate locations in detail. The location of these projects will be tracked by Energy Commission staff as the project progresses, and commented on in the aggregate analysis in future editions of this report.

In addition, the Energy Commission is mandated by the Air Quality Guidelines to track each project's progress through the CEQA process and ensure there is a commitment in place from the project proponent to complete all mitigation measures required by the permitting agency prior to a project receiving the first funding allocation.

Project Overviews

The following is an overview, presented by fuel type, of the projects proposed for award. The overviews include a project description, information on the existing site, discussion on the potential health impacts related to air pollutants, and any outreach efforts explicitly identified in the project proposals.

Demographic data for the known or planned project locations is provided in Table 2. Program staff collected data on ethnicity, age, and income for the city where the project will be located to identify communities with higher minority populations, lower incomes, and higher sensitive groups based on age. For the purposes of this discussion, program staff identified sensitive populations as fewer than five years of age and over 65 years of age. While this demographic information is important to provide a snapshot of the area where the projects are located, it is less relevant because the projects proposed for funding are found to have no adverse health impacts.

Staff also reviewed results from the Environmental Justice Screening Method (EJSM)² to identify projects that are located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks. These results are available for Southern California. The Air Resources Board applied the method³ to the Bay Area, San Joaquin Valley, and Desert regions, however, the results only consider income among the list of social vulnerability indicators.

² *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability into Regulatory Decision-Making* 2010. Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., James Sadd, Ph.D.

³ *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for AB 32 Assessments* 2010.

CHAPTER 2:

Electric Charging Infrastructure

Project Name

Sacramento Municipal Utility District (SMUD)/General Motors (GM) Electric Vehicle (EV) Infrastructure and Chrysler EV Infrastructure (two projects)

Project Description

SMUD will install 190 Level 1 and Level 2 electric charging stations in Sacramento to support the demonstration of 34 GM Volt passenger vehicles, 9 Chrysler Town and Country Plug-in Hybrid Electric Vehicle (PHEV) vans and 11 Dodge Ram 1500 PHEV Pickups. Approximately 90 of the charging stations will be open to the public, while the remainder will be installed at fleet headquarters or residences. SMUD is committed to using renewable energy to meet a portion of its customer's power needs. SMUD is on track to be the only large California utility to have 23 percent renewable energy supply by 2010. However, the utility is aiming to support the vehicles with electricity generated from zero emission generation sources, including wind power from Solano wind farms. With consideration to the full fuel cycle, this would result in a significant displacement of petroleum as the transportation fuel for these vehicles and fossil fuels for electricity generation.

Project Site

The existing sites are three college campuses, utility headquarters, city facilities, air district headquarters, and one state agency, all of which will receive EV demonstration vehicles. Many of the sites have existing, outdated EV infrastructure that will be upfitted under the proposed project.

The infrastructure is planned for installation in Sacramento which is a non-attainment area for ozone and particulate matter (10 micron) and an attainment area for other criteria pollutants. The Air Resources Board white paper⁴ does not include the Sacramento area as a low-income area exposed to the highest levels of measured air pollution.

The EV infrastructure will be installed at the following sites to support EV and PHEV deployment:

Department of General Services

- 1416 10th Street
- 800 Q Street
- 1700 National Drive
- 1517 13th Street
- 1517 11th Street

City of Sacramento

- City Hall
- 300 Richards Boulevard
- City Corporate Yard, 5730 24th Street
- Waste Water Treatment Plant, 1395 35th Avenue

⁴ Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for AB 32 Assessments 2010.

Sacramento Metropolitan Air Quality Management District

- 1200 H Street

SMUD

- Field Reporting Facility, 6201 S Street
- Customer Service Center, 6301 S Street
- Multi-Fuel Refueling Station, 6051 S Street

California State University, Sacramento

- 6000 J Street, Engineering lab, Facilities and employee parking

American River College

- 4700 College Oak Drive, Auto Shop, Facilities/Parking Depts.

Cosumnes River College

- 8401 Center Parkway, Auto Shop, Facilities/Parking Depts.

Potential Impacts

The demonstration vehicles that will be using the EV charging stations will result in significant criteria emission reductions.

The EV charging stations will not have any health impacts for either the general population or sensitive populations residing in Sacramento. Rather, the project is expected to alleviate air pollutant exposure in the region as EVs replace dirtier gasoline and diesel vehicles and become a significant portion of the vehicle population (see Table 1).

Furthermore, many of the new charging stations will replace old EV charging stations. At these sites, the Energy Commission anticipates no net adverse impact in air pollutants or health conditions related to the electric charging infrastructure.

Outreach Efforts

The local air district does not typically require permits for electric charging stations as they are not considered to be new emission sources. However, the air district adheres to federal and state regulations to notice residents within 1,000 feet of the site if, during the permit evaluation stage, the air district determines the project will result in an increase in emissions above the threshold.

The air district will also post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

Project Name:

Nissan Electric Transportation Engineering Corporation (ETEC) EV Infrastructure

Project Description

1300 Level 2 Commercial and 60 Level 3 at city sites and transportation corridors to support 1,000 pure battery EVs in the San Diego area.

The charging stations will be powered by the San Diego Gas and Electric (SDG&E) electric system. As such it will initially utilize 11 percent renewable energy. As SDG&E's renewable portfolio increases, so will the renewable energy used by the charging stations. SDG&E's goal is to have an energy portfolio that includes 20 percent renewable energy by 2010.

Project Site

The EV infrastructure will support battery electric vehicle (BEV) deployment for 1,000 vehicles in San Diego. Specific locations are not identified in the proposal. (Demographic data is provided for San Diego County.)

The infrastructure is planned for installation in San Diego County which is a non-attainment area for ozone and particulate matter (10 micron) and an attainment area for other criteria pollutants. The Air Resources Board white paper does not include the San Diego area as a low-income area exposed to the highest levels of measured air pollution.

Potential Impacts

The infrastructure will support the deployment of 1,000 BEVs, resulting in a 100 percent reduction in petroleum when compared to the gasoline vehicles they will replace. Rather, the project is expected to alleviate air pollutant exposure in the region as BEVs replace dirtier gasoline and diesel vehicles and become a significant portion of the vehicle population (see Table 1).

Similar to the other EV charging station projects, the Nissan ETEC project will have no adverse health impact on the general population or sensitive populations around the project sites.

Outreach Efforts

The local air district does not typically require permits for electric charging stations as they are not considered to be new emission sources. However, the air district adheres to federal and state regulations to notice residents within 1,000 feet of the site if, during the permit evaluation stage, the air district determines the project will result in an increase in emissions above the threshold.

The air district will also post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

Project Name

Coulomb Charge America EV Infrastructure

Project Description

Coulomb will deploy 1,667 EV charging stations in California targeted in three regions; 800 will be private charging stations, and 867 will be public charging stations. These stations will support EV rollouts, estimated in the project proposal to be 750,000 by the year 2020. In the first years of the project, the infrastructure will support approximate 1,667 electric vehicles with one fill per day.

Project Site

1,667 Level 1 and Level 2 EV charging stations will be installed in three targeted regions to support PHEV and BEV deployment. The regions are: 1) Sacramento, 2) Bay Area, and 3) Greater Los Angeles area. Specific sites have not been identified. Demographic data is provided for San Francisco, Oakland, and San Jose.

Specific locations are not identified in the proposal although the three targeted regions are Sacramento, the Bay Area, and the Los Angeles area. These regions are, in full or in part, non-attainment areas for ozone, particulate matter (10 micron), and particulate matter (2.5 micron) pollutants.

Potential Impacts

While specific locations are not yet identified, environmental justice communities with social vulnerability indicators exist in both the Bay Area and Los Angeles areas. Combined with the communities' high exposure to air pollutants and related health risks, these areas could be disproportionately affected if the project were to result in an emissions increase.

The infrastructure will support the deployment of EVs. While specific locations are not yet available, the project will have no adverse health impact on the general population or sensitive populations around the project sites. Rather, the project is expected to alleviate air pollutant exposure in the region as EVs replace dirtier gasoline and diesel vehicles and become a significant portion of the vehicle population (see Table 1).

Outreach Efforts

The local air district does not typically require permits for electric charging stations as they are not considered to be new emission sources. However, the air district adheres to federal and state regulations to notice residents within 1,000 feet of the site if, during the permit evaluation stage, the air district determines the project will result in an increase in emissions above the threshold.

The air district will also post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

CHAPTER 3:

Compressed Natural Gas/Liquefied Natural Gas (CNG/LNG) Infrastructure

Project Name

San Bernardino Association of Governments (SANBAG) Alternative Fuel Project

Project Description

This project is a partnership with SANDBAG and Ryder to deploy a minimum of 225 CNG and LNG trucks and tractors and install two publicly accessible LNG/CNG fueling stations at existing maintenance sites.

Project Site

There are two existing maintenance sites proposed for CNG/LNG stations. The first station will be installed at 9608 Santa Anita Avenue, Rancho Cucamonga, California, and the second station will be at either 1980 East University Drive in Rancho Dominguez or 1440 North Main Street in Orange.

All of the maintenance facilities already have gasoline/diesel fueling onsite, and the LNG/CNG fueling would not only serve the Ryder logistic fleet, but also serve its long-term customer leased fleets. Vehicles operating out of the Orange or Rancho Dominguez location that will not have a LNG/CNG fueling station installed will fuel at nearby public fueling stations.

These stations will be located in the South Coast Air Basin, a non-attainment area for ozone, particulate matter (10 micron), and particulate matter (2.5 micron) pollutants.

Potential Impacts

Environmental justice communities with social vulnerability indicators exist in Rancho Cucamonga, Carson (Rancho Dominguez), and Orange. Combined with the communities' high exposure to air pollutants and related health risks, these areas could be disproportionately affected if the project were to result in an emissions increase.

This project will support existing heavy-duty natural gas fleets and may be influential to fleets considering natural gas for an alternative fuel. The heavy-duty vehicle sector represents a large portion of the total transportation emissions. As shown in Table 2, natural gas results in criteria pollutant (volatile organic compounds, nitrogen oxides and particulate matter) emission reductions when compared to diesel.

This project is not expected to result in adverse health impacts to sensitive populations at the project sites or in the cities where the stations will be located. Rather, the project is expected to alleviate air pollutant exposure in the region as CNG and LNG trucks replace diesel vehicles (see Table 2).

Outreach Efforts

The local air district typically requires a permit for natural gas fueling stations. If, during the permit evaluation stage, the air district determines the project will result in an increase in emissions above the threshold, the air district will notice residents within 1,000 feet of the site.

The air district will also post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

CHAPTER 4: E-85 Infrastructure

Project Name

Department of General Services and Propel California Low Carbon Fuels Infrastructure Investment Initiative

Project Description

Working with the Department of General Services, Propel Biofuels will install fueling equipment at approximately 75 existing fueling stations. The project will yield 56,400,000 gallons of alternative fuel (Biodiesel [B5], B20, E-85) annually, displacing 32.3 million gallons of petroleum-based fuel. The Energy Commission is only funding a portion of the equipment used to dispense E-85.

Project Site

There are 75 planned stations, all of which are existing gasoline and diesel stations. Propel will install dual fuel inserts and fuel pumps at the existing gasoline and diesel stations to dispense E-85 and biodiesel.

Potential Impacts

Environmental justice communities with social vulnerability indicators exist in the following project locations:

Anaheim	Garden Grove	Pomona
Azusa	Harbor City	Santa Ana
Baldwin Park	Long Beach	South Gate
Buena Park	Los Angeles	Torrance
Commerce	Oakland	Tustin
Fullerton	Ontario	Van Nuys

Combined with the communities' high exposure to air pollutants and related health risks, these areas could be disproportionately affected if the project were to result in an emissions increase.

Use of the alternative fuel dispensing equipment is not expected to result in any new, net emissions when compared to gasoline. In fact, as shown in Table 1, E-85 results in significant decreases in criteria emissions.

This project is not expected to result in adverse health impacts to sensitive populations at the project sites or in the cities where the stations will be located. Rather, the project is expected to alleviate air pollutant exposure in the region as alternative fuels replace petroleum-based fuels (see Table 1).

Outreach Efforts

The local air district typically requires a permit for natural gas fueling stations. If, during the permit evaluation stage, the air district determines the project will result in an increase in station capacity or emissions above the threshold, the air district will notice residents within 1,000 feet of the site.

The air district will also post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

CHAPTER 5: Aggregate Location Analysis and Community Impacts

Energy Commission staff used data from the *Full Fuel Cycle Assessment* report prepared by TIAX, LLC in August 2007 to compute estimated reductions (Table 1 and Table 2) in criteria pollutants on a tank-to-wheels basis. As all of the projects analyzed in this report are fueling infrastructure projects, the tank-to-wheel data is the most appropriate to look at emissions associated with refueling and fuel use.

TABLE 1: Emission Reductions for Gasoline Vehicles

Fuel	VOC	CO	NOx	PM10
Electric Charging	100%	100%	100%	58%
E-85	53%	52%	36%	43%

TABLE 2: Emission Reductions for Diesel Vehicles

Fuel	VOC	CO	NOx	PM10
CNG*	27%	6%	2%	24%
LNG*	31%	12%	7%	28%

* Compared to Ultra Low Sulfur Diesel in urban bus application.

An Air Resources Board fact sheet⁵ describes the health impacts of exposure to air pollutants. In particular, ozone and particulate matter exposure is the cause of approximately 210,000 cases of asthma and 8,800 premature deaths each year.

The proposed infrastructure projects will increase the widespread use of alternative fuel vehicles in place of their petroleum counterparts. In addition to the specific vehicles addressed by the projects, these infrastructure projects will support existing alternative fuel vehicles and new alternative fuel vehicles deployed to the project areas.

As shown in the tables above, the projects proposed for funding will result in criteria pollutant reductions, including those identified as the cause of asthma and premature deaths. Many of the fueling station locations are located in areas that are identified as Environmental Justice communities with social vulnerability indicators and high exposure to air pollutants associated with health risks. Table 3 provides city-level data for the proposed projects to give additional insight on the community demographics where the projects will be located. However, the emissions benefits of the projects are anticipated to lead to improved air quality in these communities. While overall air quality is dependent on a number of factors, the Energy Commission expects that air quality will improve over time with the increased use of alternative fuels, including in disadvantaged communities and those communities with the most significant exposure to air contaminants.

⁵ Health Effects of Particulate Matter and Ozone Air Pollution, November 2007

In summary, the proposed projects will reduce emissions, exposure, and health risk at a local level based on the assumption that the vehicles deployed and operated in concert with the projects are cleaner than the gasoline vehicles they will replace.

TABLE 3: Demographic Data for ARRA Projects
 (Percentage of total population)

	Anaheim	Antioch	Artesia	Azusa	Baldwin Park	Berkeley	Brentwood	Buena Park	Campbell	Carson (Rancho Dominguez)
Below poverty level	14	8.5	11.5	18.8	18.2	20	5.8	11.3	4.8	9.3
Ethnicity										
Black	2.7	9.7	3.6	3.8	1.6	13.6	2.5	3.8	2.5	25.4
American Indian or Alaskan Native	.9	.9	.8	1.3	1.5	.5	.6	1	.7	.6
Asian or Pacific Islander	12.4	7.8	27.9	6.3	11.7	16.5	3.2	21.6	14.4	25.3
Hispanic	46.8	22.1	38.3	63.8	78.7	9.7	28.2	33.5	13.3	34.9
White	54.8	65.3	44.2	52.3	40.2	59.2	73.8	53	72.8	25.7
Age										
< 5 years	9.2	8.6	7.3	9.3	9.7	4	9.7	8.1	6.5	6.9
> 65 years	12.4	7.4	12.4	6.9	6.2	10.2	9.6	9.3	9.7	10.7
Unemployment rate	12.4	13.2	8.9	13.3	15.3	11	10.4	12.1	10.1	12.4

	Chula Vista	Citrus Heights	Commerce	Concord	Costa Mesa	Downey	El Cajon	Elk Grove	Escondido	Fairfield
Below poverty level	10.6	8.3	17.9	7.6	12.6	11.1	16.7	7.8	13.4	9.3
Ethnicity										
Black	4.6	2.9	.8	3	1.4	3.8	5.4	11	2.3	15.1
American Indian or Alaskan Native	.8	1	1.6	.8	.8	.9	1	.4	1.2	.8
Asian or Pacific Islander	11.6	3.1	1.2	9.9	7.5	7.9	3.2	26.3	4.7	11.8
Hispanic	49.6	10	93.6	21.8	31.8	57.9	22.5	18.1	38.7	18.8
White	55.1	84.6	44.8	70.7	69.5	53.5	74	46	67.8	56.2
Age										
< 5 years	7.8	6.8	8.9	7.1	7.1	8	8.2	8.2	8.8	8.5
> 65 years	11	12.9	10.2	10.7	8.4	11	11.3	7.1	11	9
Unemployment rate	12.4	9.1	22.8	12.7	8.7	9.9	14.4	10.5	11	13.9

	Fountain Valley	Fremont	Fullerton	Garden Grove	Harbor City	Hayward	Huntington Beach	Imperial Beach	Irvine
Below poverty level	4.3	5.4	11.4	13.9	N/A	10	6.6	18.8	9.1
Ethnicity									
Black	1.1	3.1	2.3	1.3	10.7	11	.8	5.3	1.4
American Indian or Alaskan Native	.5	.5	.7	.8	3.1	.8	.7	1.1	.2
Asian or Pacific Islander	26.2	37.4	16.3	31.6	13	20.9	9.5	7.1	29.8
Hispanic	10.7	13.5	30.2	32.5	48.1	34.2	14.7	40.4	7.4
White	64	47.7	61.9	46.9	25.1	43	79.2	62.3	61
Age									
< 5 years	6	7.4	7	7.9	N/A	7.9	6.2	8.4	5.6
> 65 years	11.3	8.3	11.3	9.5	N/A	10.2	10.4	7.5	7.2
Unemployment rate	8.1	8.4	10.9	12.1	11	12.8	7.9	16.8	7.3

	Laguna Hills	Lemon Grove	Livermore	Long Beach	Los Angeles	Oakland	Oceanside	Ontario	Orange
Below poverty level	5.0	17.2	5.3	22.8	22.1	19.4	11.6	15.5	10
Ethnicity									
Black	1.4	10.3	1.6	14.9	11.2	35.7	6.3	7.5	1.6
American Indian or Alaskan Native	.4	.1	.6	.8	.8	.7	.9	1.1	.8
Asian or Pacific Islander	10.4	6.6	6.1	13.2	10.8	15.7	6.8	4.3	9.5
Hispanic	16.4	39.8	14.4	35.8	46.5	21.9	30.2	59.9	32.2
White	76.8	71.7	81.9	45.2	46.9	31.3	66.4	47.8	70.5
Age									
< 5 years	6.1	7.3	7.7	8.4	7.7	7.1	7.6	9.7	7.7
> 65 years	12.1	11.6	7.5	9.1	9.7	10.5	13.6	5.9	9.6
Unemployment rate	8.2	13.2	7.6	13.5	13.6	17.2	10.1	15.3	9

	Palo Alto	Placentia	Placerville	Pomona	Poway	Rancho Cucamonga	Redwood City	Roseville	Sacramento
Below poverty level	4.8	8.7	12.1	21.6	4.3	7.1	6	4.9	20
Ethnicity									
Black	2.0	1.8	.2	9.6	1.7	7.5	2.5	1.3	14.1
American Indian or Alaskan Native	.2	.8	1.2	1.3	.5	.7	.5	.7	1.1
Asian or Pacific Islander	17.3	11.4	10	7.4	7.8	6	9.8	4.5	20.1
Hispanic	4.6	31.1	12.6	64.5	10.4	27.8	31.2	11.5	27
White	75.8	67.8	88.6	41.8	82.9	66.5	69	86	48.3
Age									
< 5 years	5.1	7.4	6.5	9.4	6.0	7	7.5	7.3	7.1
> 65 years	15.6	9.1	17.4	6.4	8.6	6.1	10.2	14.5	11.8
Unemployment rate	6.4	8.6	19.2	13.7	6.3	9.5	9.3	11.7	12

	Sacramento County	San Francisco	San Diego	San Marcos	San Jose	San Ramon	Santa Ana	Santa Rosa	South Gate
Below poverty level	13.3	11.3	14.6	12	8.8	2	19.8	8.5	19.2
Ethnicity									
Black	10.5	7.8	7.9	2	3.5	1.9	1.7	2.2	1
American Indian or Alaskan Native	1.3	.5	.6	.8	.8	.4	1.2	1.4	.9
Asian or Pacific Islander	14.2	31.3	14.1	4.9	27.3	15.1	9.1	4.1	.9
Hispanic	20.2	14.1	25.4	36.9	30.2	7.2	76.1	19.2	92
White	69.7	49.7	60.2	67.4	47.5	76.8	42.7	77.6	41.6
Age									
< 5 years	7.5	4.1	6.7	8.8	7.6	67.4	10.3	6.5	10.1
> 65 years	11.4	13.7	10.5	11.9	8.3	6.1	5.5	13.9	5.4
Unemployment rate	12.9	9.9	10.6	10.6	13	4.9	15.2	11	15.6

	South Pasadena	Stanton	Torrance	Tustin	Van Nuys	Vista	Walnut Creek	Westminster
Below poverty level	9	18	6.4	8.5	15.3	14.2	3.7	13.5
Ethnicity								
Black	3.4	2.3	2.2	2.9	3.4	4.2	1.1	1
American Indian or Alaskan Native	.4	1.1	.4	.7	.5	1	.3	.6
Asian or Pacific Islander	31	16.4	28.9	15.2	10	4.4	9.5	4.3
Hispanic	16.7	48.9	12.8	34.2	40.8	38.9	6	21.7
White	60	49.6	59.2	58.7	43.4	64.3	83.9	45.8
Age								
< 5 years	4.8	9.3	5.7	8.6	4.8	8.6	4.4	7.3
> 65 years	11.4	9.6	14.1	7.1	11.4	10	25.3	11.2
Unemployment rate	6.2	15.4	6.2	9.6	5.4	11.8	8	10.8

SOURCE: Unemployment Information, EDD Labor Market Information Division; Age/ethnicity demographics, Census