



## **MTC Climate Innovation Grant**

Proposal

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Title: Local Government EV Fleet Project  
Applicant: Alameda County & partners  
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### **1. Overview**

The Local Government EV Fleet Project is a high impact initiative to showcase electric vehicles in multiple government fleets, create substantial direct emission reductions, and serve as a model to scale this key clean energy solution nationwide. The proposal here summarizes 3 project options at different scales per request from MTC. These project tiers total requests of \$3,369,000 (Option 1), \$2,682,300 (Option 2), and \$2,076,800 (Option 3) from the MTC Climate Initiative Grants to deploy 110 to 71 electric vehicles (EVs) respectively plus necessary infrastructure, and associated management and communications. For all three options matching funds are over 40 percent of the direct costs of the project plus there is significant additional in-kind support.

This EV fleet is projected to achieve over 540,000 lbs of net CO<sub>2</sub> avoidance (Option 1) and a reduction of over 3,500 lbs of criteria pollutants annually. The project will be leveraged to encourage EV adoption regionally and nationally through systematic visibility and outreach strategies. In addition, the initiative provides extensive additional benefits of regional readiness and ability to attract further support for electric vehicles. We encourage support for option one to provide significantly greater impacts: greater emissions reduction, better assessment of the technology in diverse contexts, and more compelling demonstration to overcome skepticism.

The project is a partnership between Alameda County, Sonoma County, Transportation Authority of Marin, City of San Francisco, City of San Jose, City of Oakland, City of Fremont, City of Concord, the Bay Area Climate Collaborative and others. Project leadership includes prominent leaders in the electric vehicle and fleet industries.

#### **Opportunity**

According to the Bay Area Air Quality Management District, transportation accounts for over 40 percent of Bay Area greenhouse gas emissions, the single largest emission source by sector, making clean vehicles possibly the most critical solution for rapid reduction of emissions and concurrent air quality impacts. A unique opportunity exists, in the next two years in particular, with the introduction of new, long-range, high performance electric vehicles attractive for mass-market adoption. Local government vehicle fleets are especially appropriate for initial adoption of electric vehicles because of the associated need for charging infrastructure. With fleets, charging infrastructure can be managed centrally, reducing infrastructure scale and costs while focusing vehicle benefits on high frequency usage. Furthermore, government vehicle fleets account for the largest sector of fleets in the country, with state and local governments accounting for over 4.1 million cars and trucks alone according to Automotive Fleet. This is by far the largest sector out of the total 11.2 million commercial and government fleet vehicles.

Fleet vehicles provide an exceptional opportunity to collect data and verify gains compared to personal vehicle applications due to their systematic management. In addition, because of the

professional data sharing networks in fleet associations, fleets frequently serve as a bridge from concept to commercialization of new vehicle technologies and practices. By partnering throughout the region, this project will overcome both financial and technical barriers while enabling significant environmental benefits and educational opportunities.

## 2. Project Description

The project provides the elements to ensure success through key partnerships, concrete application, proven expertise, and effective leveraging strategies.

### 2.1. Overall Goals

The Local Government Electric Vehicle Fleet proposal provides a unique opportunity for high impact emissions reductions that will be leveraged for the broader advancement of electric vehicles both regionally and nationally. With MTC's support, this project will address critical "proof of concept" needs for broad-based adoption of electric vehicles in fleets by rigorously demonstrating fleet value and showcasing best practices.

Overall, this project will have three major objectives:

1. Substantial emissions reductions
2. Stimulating regional interest in EVs
3. Nation-wide demonstration to encourage replication

In addition, the project will provide the following important benefits:

- Support the market for new vehicles, demonstrating demand, and helping to reduce costs through economies of scale
- Build a sophisticated knowledge base and valuable experience among the full supply chain of practitioners - drivers, mechanics, electricians, public works, and fleet management professionals
- Establish infrastructure and regional cooperation to accelerate further adoption
- Stimulate green jobs in both the public and private sectors
- Demonstrate important related technologies

### 2.2. Participating Agencies

This project brings together local government agencies with both demonstrated leadership in clean vehicles and the capacity for broad regional distribution. Local governments directly participating in the project are Alameda County, Sonoma County, Transportation Authority of Marin (TAM), City of San Jose, City of San Francisco, City of Oakland, City of Fremont and City of Concord. In addition, Sonoma County is representing the county as well as the City of Santa Rosa and the Sonoma County Water Agency. The Transportation Authority of Marin is representing the Marin Municipal Water District (MMWD)

The local governments participating in this project represent over 50 percent of the population of the Bay Area. This will ensure that project benefits are distributed broadly and that exposure to the vehicles will be region-wide. In addition, the municipalities include urban, suburban and rural settings plus both high and low income communities providing diverse use of the vehicles under differing circumstances increasing the applicability and value of the data.

Participating agencies have a long history of leadership on clean vehicles. For example, Sonoma County first purchased hybrids in 2002 and is now running 231 hybrids including a bucket truck. In 2008, Sonoma County began converting Prius vehicles to plug-in hybrids and now has 9 in its fleet. In 2010, the county installed a fuel cell which is used to power vehicles and other electrical needs. The county has demonstrated an exceptional fueling cost of 5 cents per mile for plug-in hybrids in its fleet and extrapolated to a likely 1.9 cents per mile for anticipated electric vehicles when charging off-peak. This is in comparison 11 cents per mile for a compact car.

The leadership role already being played by these governments is illustrated in numerous ways including:

- San Jose's installation of the region's first EV-ready street across from city hall
- The first climate special district in the region and possibly in the country, the Sonoma Climate Protection Authority
- Alameda County was recently awarded the NAFA Fleet Management Association Green Fleet honorable mention and is ranked nationally as #25 for the Government Magazine's Green Fleet Awards
- Dan Sunseri, Automotive Equipment Specialist for San Jose, is President of Public Fleet Supervisor's Association
- Doug Bond, Alameda County Transportation Services Manager, is a member of the Public Fleet Supervisor's Association Board
- Tom Fung, San Francisco Fleet Director, is on the board of California Counties Fleet Management Association
- Fremont's selection by Tesla Motors as the site of its new EV assembly plant

The demonstrated leadership of these agencies ensures that all partners will be able to fully capitalize on the numerous opportunities presented through this project to achieve maximum environmental, social, and economic impact.

### **2.3. Vehicles and Applications**

The fleet vehicles selected for the project will include both sedans and light-duty vans. The designated vehicles are in most cases targeted for deployment in multiple-use vehicle pools, though in some cases they are targeted for use in specific departments. All agencies are also encouraging employees to prioritize using the electric vehicles for any work-related needs instead of gas vehicles.

#### **Prospective Vehicles**

- Sedan:** Nissan Leaf or equivalent  
Target sedan must be a 4-door full electric vehicle that seats 4 with minimum 100 mile range and a production vehicle from an original manufacturer.
- Van:** Ford Transit Connect or equivalent  
Target van must be a light-duty full electric vehicle that seats 2+ with minimum 80 mile range and a production vehicle from an original manufacturer.
- Chargers:** One level 2 charge point per vehicle, Coulomb 2100 or equivalent  
Target charger must support 240 volts, 40 amps, and networked software communications to fleet management consoles.

**Vendors:** Coulomb, Better Place, GE, ECOtality, NRG, Clipper Creek (partial list)

### Vehicle Distribution

	Option 1		Option 2		Option 3	
	Sedan	Van	Sedan	Van	Sedan	Van
Alameda Co.	26	6	20	4	16	1
Concord	12	0	10	0	8	0
Fremont	2	0	2	0	2	0
TAM/MMWD	0	4	0	3	0	2
Oakland	3	0	3	0	3	0
San Francisco	12	2	12	2	10	0
San Jose	3	0	3	0	3	0
Sonoma Co.	35	5	29	2	25	1
<b>Totals</b>	<b>93</b>	<b>17</b>	<b>79</b>	<b>11</b>	<b>67</b>	<b>4</b>

### Uses

Agencies will utilize the vehicles in diverse applications to maximize their use. The following is a partial sampling of specific applications for the vehicles:

#### **Sedans:**

Oakland & Concord: Use by community and economic development staff for visits to local businesses.

San Jose and Fremont: Use by development staff (planners, engineers, building and construction inspectors) performing building inspections and routine code enforcement activities.

San Francisco: Use by parks and recreation staff for local parks maintenance visits and community meetings and outreach.

Alameda: Use by social services staff for client visits and for intra-agency messenger and mail services.

#### **Vans:**

San Francisco: Use by fire department for service requests at the city's 42 fire stations including Treasure Island to perform mobile inspections and repairs. The vans will be used for carrying parts, tools, and equipment such as air compressors, inverters, and welders.

TAM/MMWD: Use by meter readers and repair crews responding to minor repair calls. The vans will carry parts, tools, and miscellaneous equipment.

### **Additional Uses**

The participating agencies will pursue and document further innovative opportunities for electric vehicle implementation. For example, San Francisco is currently working with local community colleges on EV and green job programs and plans to provide students an opportunity to study the impact of various new vehicle applications.

### **2.4. Emissions Benefit**

A major benefit of these vehicles will be the carbon and criteria pollutants that are averted due to reduced usage of gas vehicles. With an average annual mileage of 6,500 miles, the fleet

outlined in Option 1 (110 vehicles) is estimated to displace nearly 800,000 lbs. CO<sub>2</sub> in direct emissions and 3,540 lbs of criteria pollutants annually. These estimates are based on EPA pollutant standards and a scenario of 9-year-old Taurus and Chevy vans replacement. Note also that because these vehicles are used in frequent short trips primarily on surface streets, the reductions will likely be higher since “stop & go” travel and engine startup account for higher than average pollutant output than ongoing highway miles.

The vehicles will produce indirect emissions arising from fossil fuel use in power provided by the local utility, Pacific Gas & Electric (PG&E) in most cases. Exact calculation of the indirect emissions figure is challenging as it depends on the source of power at the time of charging, battery performance, driving patterns, and other variables. However, in a 2007 report prepared for the California Energy Commission, the indirect emissions produced by EVs by charging on the California energy grid were estimated to be 68 percent less than an internal combustion engine. Net emissions reductions for Option 1 are therefore estimated at 543,717 lbs. CO<sub>2</sub>. In contrast, Option 2 and Option 3 provide estimated net CO<sub>2</sub> reductions of 439,639 lbs. and 338,432 lbs., respectively.

It is also important to note that whereas gas vehicles emit more emissions as they age, electric vehicles will account for lower emissions over time as utilities move to incorporate increasingly clean energy sources, driven in part by state renewable energy standards as well as increasing adoption of clean distributed energy. Actual emissions therefore will likely be lower in years to come. In addition, PG&E’s energy mix is better (lower emitter) than the state average.

### **2.5. Stimulating Regional Interest in EVs: Visibility**

Stimulating regional interest in electric vehicles will be achieved through a directed strategy of public visibility coordinated into a unified campaign by the BACC for the individual vehicles and project overall. This includes the following tactics, with further detail below:

1. Vehicle visibility promotion
2. Employee direct experience & education
3. Public engagement
4. Earned media
5. Local fleet outreach

#### **Vehicle visibility promotion**

While the vehicles will likely be distinctive (for example, most of the public recognizes the Prius hybrid as “greener”), the vehicles will be painted on both sides with prominent verbiage to make clear they are electric vehicles such as “Plug-in Electric Vehicle, Clean Transportation” with local agency logo. Some agencies, such as Sonoma County and Alameda County, already follow this practice. This will ensure thousands of impressions for employees and the larger public as the vehicles are used on their rounds.

#### **Employee direct experience & education**

Studies indicate that direct experience with electric vehicles is the most effective way to get people to consider them for purchase. The vehicles will be used by hundreds of employees whose positive experience using the vehicles will influence their own choices as well as how they share these experiences with others through their personal networks. To support this process, employees using and maintaining the vehicles will receive an orientation describing proper usage of the vehicles as well as the multiple environmental and economic benefits that result. Follow up communications through traditional channels such as electronic newsletters and new employee training will highlight vehicle benefits and project milestones/successes.

**Public engagement**

The vehicles will be utilized in municipal outreach through a variety of events such as local street fairs and town halls enabling members of the public to be directly exposed to the vehicles and to learn about their benefits as well as the larger EV project.

**Earned media**

A systematic strategy of local and regional earned media will be coordinated by the BACC including “ribbon cutting” events with elected officials and fleet managers when the vehicles are received, op-eds, and earned media stories on a variety of angles, such as the documented performance of the vehicles, as part of an ongoing campaign over the course of the project.

**Local fleet outreach**

Channel outreach through municipal and business associations will encourage adoption of EVs in fleets in the region. Workshops on EV fleet benefits will incorporate details on the Local Government EV Fleet project. The project will leverage existing relationship networks including the Silicon Valley Leadership Group, EV Communities Alliance, EPRI, PG&E, Bay Area Council, Business Council on Climate Change, Clean Cities Coalition and municipal associations for broad dissemination of EV fleet information and benefits within and beyond the Bay Area to business and government communities.

**2.6. Encourage National Adoption: Associations & Conferences**

The third major goal of the project is to leverage the project for national impact through systematic analytics and aggregation of best practices which can be disseminated through national electric vehicle, fleet, and transportation channels. This is especially valuable in the fleet context as fleet practices are highly systematized and are regularly shared by fleet managers as part of ongoing professional development.

The project will include a multi-channel communication and education strategy coordinated by the BACC with participating agencies and BACC partners. This strategy is outlined below:

- Produce detailed analytics of the fleet performance (as described in the evaluation section below)
- Aggregate best practices information
- Produce and publish attractive materials and white papers for communication to transportation professionals, including updating the BACC EV business case
- Disseminate the above through in-person and virtual presentations by project leaders to relevant professional fleet associations and conferences such as the Public Fleet Supervisor's Association (PFSA), California Counties Fleet Management Association (CCFMA), and National Fleet Managers Association (NAFA)
- Disseminate information through related transportation forums and organizations such as the Plug-in Conference, Green Fleet Conference, Plug-in America, and Electric Drive Transportation Association as well as non-EV specific forums such as state and national transportation conferences.
- Generate earned media in fleet, transportation and automotive media channels such as Automotive Fleet, Business Fleet, Business Driver, and Government Fleet.
- Collaborate with auto and charger manufacturers on outreach and visibility as appropriate.

### 3. Roles & Management

Roles for the project are divided into four major areas:

#### Local Governments

Local government fleet managers provide the senior leadership of the project. All major decisions will be taken under the direction of participating fleet managers through a project steering committee which will convene at regular intervals, no less than monthly, at the initial stages of the project. The municipalities also will manage intra-agency activities associated with the project including fleet management, infrastructure siting, charger installation management, fleet data collection, training, and maintenance. Vendor purchase processes will be handled collaboratively where possible through unified RFP processes.

#### Bay Area Climate Collaborative

Core project management support will be provided by the Bay Area Climate Collaborative (BACC) under the guidance of the BACC Steering Committee and Electric Vehicle chairs Bob Hayden, Clean Transportation Advisor to the City of San Francisco, and John Boesel, CEO of Calstart. The BACC will provide cross-partner support including partner coordination, project scoping, joint vendor vetting and engagement, joint training coordination and high level standardized content used by all agencies, local policy coordination, management of project evaluation, regional earned media outreach, national outreach coordination, best practices aggregation and publication, as well as other global project coordination tasks as needed.

Additional project management staff may be hired to ensure sufficient capacity and the BACC will coordinate closely with the EV Corridor Project. Additional partners, such as the EV Communities Alliance, will be engaged as appropriate.

#### Evaluation Consultant

As described in the evaluation section, a third-party consultant will be engaged to assist with the project evaluation. The consultant will provide technical guidance on assessment methodology, execute portions of the data acquisition not readily feasible by the municipalities, and provide the final analysis and report. Candidates for the project's consulting role include CALSTART, UC Berkeley's Institute for Transportation Studies, and UC Davis' Plug-in Hybrid Electric Vehicle Research Center.

#### Caltrans Project Coordination

Support for managing the relationship with Caltrans will be secured. Based on MTC guidance, this is anticipated to encompass tasks such as reporting on the field review, environmental clearance, fund agreement, and reimbursement process. Selection of the responsible agency and department awaits further detail on the specifics of this activity but is anticipated to reside with a municipality with a larger set of vehicles within the project, specifically Sonoma County, Alameda County, or San Francisco.

### 4. Project Schedule

The project timeline is as follows:

Timeframe	Fleet Installation & Use	Evaluation	Regional Visibility	National Outreach
2010 Q4	Define project team & processes	Evaluation consultant selection	Publicly announce project initiation	BACC staffing ramp-up for regional visibility & national outreach
	Refine scope, budget & timeline	Data objectives & methodology refined	BACC staffing ramp-up for regional visibility & national	Identify national outreach
	Finalize RFPs and initiate procurement			

	process Charger site assessments & planning. Caltrans engagement. Engage utility on grid assessments if needed		outreach Develop detailed regional visibility plan Engage municipal leaders on visibility plan	channels and develop plan
2011 Q1	Operations training/readiness Vendor negotiations & procurement Charger installations & sedan deliveries	Create or validate instruments and data tools Execute pre-project data acquisition if appropriate	Begin "ribbon cutting" events Begin educating journalists on project	Initiate presentations & outreach on scale, objectives, expectations from the project
2011 Q2	Sedan deliveries Fleet staff training Utilization begins	Initiate data sampling if appropriate	Ongoing media engagement tied to project milestones, data, and external events. Ongoing workshops and outreach to regional local governments and businesses.	Ongoing national channel outreach tied to conferences, association calendars, or national channel media opportunities
2011 Q3	Sedan and van deliveries			
2011 Q4		Execute "checkpoint" preliminary assessment		
2012 Q1	Second round purchases, if appropriate			
2012 Q2				
2012 Q3		Execute final assessment		
2012 Q4		Produce final report	Regional rollout of project findings	National rollout of project findings
2013				

Note: the above schedule is subject to variables including Caltrans environmental review process timing, possible weather delays with external charger installations, timing of EV van availability, utility impacts (see evaluation) and agency budget cycle considerations. These factors may especially influence the early steps associated with the fleet installation and use, leading in some cases to deployments later in 2011.

## 5. Evaluation

### Goals

Data and analysis are an essential component of the project to determine with accuracy the benefits of the vehicles and the project as a whole. This information will also be central to the outreach component of the project in which the results and best practices will be shared via fleet associations with the objective of motivating other fleets to deploy electric vehicles.



Given these overall project goals, the evaluation portion of the project will include the following assessments:

- Performance of the fleet and related components
- Benefits from the fleet (especially emissions reductions)
- Personnel/human factors response
- Regional visibility
- High-level utility implications (time of use, local infrastructure)
- EV fleet management learnings and best practices

**Specific Objectives & Metrics**

These evaluation goals are further subdivided into the following objectives and specific metrics:

Evaluation Area	Specific Objectives	Evaluation Metrics
Evaluate performance of the fleet and related components	1. Vehicle performance 2. Charger & software performance 3. Vendor performance	1. Vehicle performance <ul style="list-style-type: none"> <li>a. Miles traveled</li> <li>b. Maintenance frequency and downtime</li> <li>c. Ease of use - training time</li> <li>d. Battery condition after 1 year</li> </ul> 2. Charger & software performance <ul style="list-style-type: none"> <li>a. Failure rate</li> <li>b. Downtime</li> <li>c. Data completeness for fleet needs</li> </ul> 3. Vendor performance <ul style="list-style-type: none"> <li>a. On time product delivery</li> <li>b. Warranty coverage</li> <li>c. Training quality</li> <li>d. Repair responsiveness</li> </ul>
Evaluate benefits from the fleet	4. GHG reduction 5. Criteria pollutants reduction 6. Cost effectiveness	4. GHG Reduction <ul style="list-style-type: none"> <li>a. Estimate net GHGs from vehicle replaced and actual miles of EV</li> </ul> 5. Criteria pollutants reduction <ul style="list-style-type: none"> <li>a. Estimate net pollutants from vehicle replaced and actual miles of EV</li> </ul> 6. Cost effectiveness <ul style="list-style-type: none"> <li>a. Actual costs of vehicle, EVSE</li> <li>b. Actual installation costs</li> <li>c. Actual maintenance &amp; fueling costs, cost per mile</li> <li>d. Cost comparison vs. comparable ICE</li> </ul>
Evaluate personnel response	7. Driving experience 8. Maintenance experience 9. Management experience	7. Driving experience <ul style="list-style-type: none"> <li>a. Would recommend vehicle</li> </ul> 8. Maintenance experience <ul style="list-style-type: none"> <li>a. More/less trouble for basic maintenance</li> </ul> 9. Management experience <ul style="list-style-type: none"> <li>a. More/less trouble for management</li> </ul>

Regional visibility	10. Media visibility	10. Media visibility a. Media hits
High-level utility implications	11. Utility Impacts 12. Vehicle to grid potential	11. Utility impacts a. Frequency of local transformer upgrades  12. Vehicle to grid potential a. Time of charging
EV fleet management learnings and best practices	13. Best-practices	13. Best-practices a. Recommendations on charger siting, vehicle use applications, maintenance

**Utility Implications**

The utility implications referenced above reflect two important areas of study. It is recognized that charging EVs creates a significant local load which may trigger the need for local grid infrastructure improvements, particularly with local transformers. Assessing (and resolving) impacts will require close coordination with the local utility. Vehicle-to-grid (V2G) assessment refers to examining the potential for future use of EVs to selectively provide power to the grid as a means of “flattening” grid power use peaks. Peak power usage is expensive and frequently produces high emissions. The V2G concept is an early stage theory on how the assets on the grid can reduce the need for fossil fuel power generation and facilitate renewables. Assessing when the vehicles are charging is the first step in assessing vehicle-to-grid potential.

**Additional Metrics**

In addition to the above metrics, select agencies will outfit the vehicles with GPS units. This will enable additional sampled data gathering on frequency of use, deeper analysis of most-used vehicles, and other data.

**Methodology & Analytics Support**

The methodology for acquisition of the above data will vary based on the specific data and agency but will be coordinated for consistency. Many conventional fleet metrics will be aggregated first at the agency level within existing fleet management tools, such as mileage and cost per mile. These data will be supplemented by data from the charger vendor for data such as charge times. Surveys of relevant agency personnel will be utilized, likely on a sampling basis, for personnel experience and utility impacts. Finally, media monitoring will be used for media impressions, and focus group style discussion with the fleet managers will be utilized for the best practices.

The final aggregation will be managed centrally in collaboration with consulting support from an academic or non-profit organization with expertise in electric vehicle fleet analysis. Selection of the consultant will be done via an RFP process. Specific data and methodologies will be refined with the consultant and also in close collaboration with the EV Corridor Project to maximize consistency and leverage. Candidates for the project’s consulting role include CALSTART, UC Berkeley’s Institute for Transportation Studies, and UC Davis’ Plug-in Hybrid Electric Vehicle Research Center. BACC will facilitate collection of fleet management learnings and best practices.

In consultation with the selected consultant, the partner agencies will utilize best practice models, such as the Climate and Air Pollution Planning Assistant (CAPPA) developed by ICLEI - Local Governments for Sustainability, to estimate the greenhouse gas emission reduction benefits realized from the use of the electric vehicles in the agencies' fleet operations.

## 6. Budget Summary

The project budgets for the three alternatives, including the over 40 percent local match, are as follows:

	Description	Option 1	Option 2	Option 3
<b>Total Vehicles</b>	One charger per vehicle	110	90	71
<b>Direct Project Costs</b>	Vehicles, chargers, overall project management, outreach & analytics	\$5,715,000	\$4,620,000	\$3,566,000
<b>Indirect Costs (in-kind)</b>	Staff time, vehicle use costs	\$176,000	\$144,000	\$113,600
<b>Total Project Value</b>		\$5,891,000	\$4,764,000	\$3,679,600
<b>Local Match Funds</b>		\$2,346,000	\$1,937,700	\$1,491,200
<b>MTC Grant Support</b>		\$3,369,000	\$2,682,300	\$2,074,800

For detail on the budgets please see accompanying project spreadsheet.

The project will pursue a competitive vendor process and bulk purchase agreements where possible to reduce costs. All available state and federal rebates will be explored when purchases are made and any cost recovery will be used where possible to fund additional vehicles or chargers.

## 7. Additional Benefits

The project will provide significant additional benefits which cannot be fully detailed here but include:

- Supporting the market for new vehicles, demonstrating demand, and helping to reduce costs through economies of scale. Given that plug-in vehicles are newly entering the market, demonstrating immediate demand for the vehicles will accelerate the ramp-up of production and assist with reducing vehicle costs.
- Building the necessary knowledge base and experience among the full supply chain of practitioners - drivers, mechanics, electricians, public works, utility workers, and fleet management professionals. Plug-in vehicles present a vast array of changes throughout a range of professions, some who traditionally have little interaction. The project will stimulate building of knowledge and relationships essential for the successful broad introduction of EVs. For example, the fleet EVs can be used to educate building officials in the municipalities who will need to develop and implement residential and commercial permitting for charging stations.
- Establishing infrastructure and regional cooperation to accelerate further adoption. Deployment of EVs demands extensive cooperation such as that between local governments and utilities on grid considerations and permitting processes. By placing the project within municipalities, rather than only arising from external demand, there is added incentive to engage cooperatively because of internal champions.
- Stimulating green jobs in both the public and private sectors. The deployment of the EVs and chargers will create demand for trained personnel in this new field.

- Demonstrating important related technologies. Charging station innovations, EV fleet management software, and tools for maintenance will all be exercised as part of the project.

## 8. Additional MTC Questions

### 1. What are we going to learn?

The project is anticipated to prove the full value of electric vehicles for appropriate applications, both in fleets and beyond. In addition, the project will provide specific information on best practices for successfully managing the vehicles to provide maximum value as well as details on what is required for successful EV implementation.

### 2. What can we teach (especially to elected officials)?

The project will demonstrate that wide-spread adoption of electric vehicles is viable due to economic and environmental value delivered. Additionally, this robust partnership will address EV issues such as “range anxiety” and the development of appropriate infrastructure to provide a replicable model for local governments nationwide.

### 3. How does this position the region to secure more funding resources, such as the federal government and automakers?

The project will significantly assist in securing further resources for the region by demonstrating EV demand, increasing local government skills and experience with the technologies, establishing infrastructure, and building critical relationships both within the region and with major vendors. Furthermore the national outreach portion of the project will establish the Bay Area as a visible leader in the adoption of electric vehicles.

## 9. About the BACC

The Bay Area Climate Collaborative is an initiative launched by the mayors of San Francisco, San José, and Oakland to accelerate the clean energy economy and make the Bay Area a national model. The BACC is a public-private initiative with local government partners representing over 50 percent of the Bay Area population, Bank of America, Pacific Gas & Electric, Environmental Defense Fund and numerous others. The BACC is a project of the Silicon Valley Leadership Group and its electric vehicle partners including Coulomb Technologies, Better Place, and Silver Spring Networks.

## 10. Conclusion

The Local Government EV Fleet Project is a unique and strategic collaboration that will establish a high impact electric vehicle fleet in the Bay Area. This fleet will provide three strategic goals: 1) substantial emissions reductions, 2) stimulation of regional interest in EVs, and 3) nationwide demonstration of this key clean transportation solution. This project will leverage the unique role of fleets with their rigorous management, public visibility, and professional networks. Through robust partnership, building on broad and recognized leadership, the Local Government EV Fleet Project will serve as a model for government and commercial fleets nationwide, providing an unprecedented foundation for clean technology advancement, air quality benefits and significant, ongoing emission reductions.