



METROPOLITAN
TRANSPORTATION
COMMISSION

Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, CA 94607-4700
TEL 510.817.5700
TTY/TDD 510.817.5769
FAX 510.817.5848
E-MAIL info@mtc.ca.gov
WEB www.mtc.ca.gov

TO: Policy Advisory Council

DATE: September 5, 2012

FR: Brenda Dix and Ursula Vogler

W.I.: 1413

RE: MTC Climate Initiatives Program Overview

In April 2012, staff first presented the Plan Bay Area draft transportation investment strategy to the Policy Advisory Council. There was much discussion on the policy initiatives recommended for funding to close the greenhouse gas (GHG) emissions reduction gap which ultimately led to changes in the final preferred transportation investment strategy adopted by the Commission. These changes included shifting funding from electric vehicles to reserve funds for the continuation of the current Climate Initiatives Innovative Grant Program and increasing funding for car sharing.

During those discussions the Council requested an overview of the current Climate Initiatives Program which can be found in this memo and the accompanying presentation.

Background

In December 2009, the Commission adopted the New Surface Transportation Act Cycle 1 Project Selection Criteria and Programming Policy, which included, among other programs, an \$80 million Climate Initiative Program. The Climate Initiatives Program aims to test new strategies to reduce transportation-related emissions and vehicle miles traveled, encourage the use of cleaner fuels, and build a knowledge base through evaluation that informs the Sustainable Communities Strategy (SCS). Although Cycle 1 programs are not sufficiently complete to inform project selection for the emissions reduction strategies for Plan Bay Area, staff is continuing to evaluate the program to inform future plans.

In order to achieve its greenhouse gas emission reduction goals, the Climate Initiatives Program is focusing its efforts on four main areas: Innovative Grants, public education and outreach, Safe Routes to School, and evaluation. An update on each area is outlined below.

Innovative Grants

In April 2010, MTC issued a call for projects for a total of \$33 million in grant funding. Projects were selected on a competitive basis to assist public agencies, businesses and community organizations implement innovative transportation-related GHG emission reduction strategies in the following categories: Safe Routes to School (SR2S), Clean Vehicles, Parking Pricing, Transportation Demand Management, and Showcase Projects.

Proposed projects were evaluated based on how well they met the basic fund eligibility requirements and the following evaluation criteria:

- Level of Innovation
- Potential for Replication at a Larger Scale
- Quality of the Proposal
- Potential for Greenhouse Gas Emission Reductions (such as through mode shift, cleaner vehicles, reduced vehicle miles traveled, etc.)
- Cost Effectiveness
- Cost Sharing by Multiple Partners (except for SR2S)
- Percent Local Match
- Location in a Priority Development Area (except for SR2S)

After a two-step application and review process, MTC awarded the \$33 million to a total of 17 projects including electric vehicle car sharing and taxi fleets, dynamic pricing for parking, real time ridesharing in three counties, bicycle sharing in San Francisco and along the Peninsula, electricity to allow ocean-going ships to turn off their diesel engines while loading or unloading cargo, signalized intersections to detect and count bicycles, safe routes to school maps, and a “bikemobile” to repair children’s bicycles and teach them the importance of bike safety. Project sponsors are required to measure and evaluate project performance.

Public Education and Outreach: Smart Driving Pilots and Electric Vehicle Campaign

In July 2010, MTC selected consultants to conduct market research to identify changes in transportation behavior(s) with the greatest potential to reduce greenhouse gas emissions. This research determined that smart driving (including decisions such as vehicle selection and maintenance, route selection, vehicle load, and driver behavior) and the use of electric vehicles are the transportation behaviors with both the greatest potential greenhouse gas (GHG) emissions reduction and the greatest likelihood to be adopted by Bay Area drivers.

MTC is currently planning two smart driving pilots to be implemented this year, one directed by MTC and one implemented in conjunction with the ITS program at UC Davis (ITS-Davis):

1. MTC is leading two pilots of 75 participants each. Each pilot will use two types of in-vehicle devices, showing miles per gallon (MPG) usage, along with smart driving

education. One third will receive only education; remaining will receive a device and education.

2. ITS-Davis will lead another pilot using MPG mobile applications, similar to the in-vehicle device pilot in a telephone application format. The pilot will include 250 participants.

Pilot participants will be recruited through the 511 website, partner organizations and employers, and will include a focus on Limited-English Proficiency/low-income participants. Each pilot will be evaluated for its ability to effect change in pilot participant's behavior and, ultimately, reduce GHG emissions. This will be accomplished by collecting data on a pilot participant's activities through the piloted tool itself (e.g., data collected by MPG mobile app or in-vehicle devices) or through self-reporting. Evaluation data will be used to determine whether to pursue any potential future activities, including introducing successful elements to the Bay Area public.

In tandem with the smart driving pilots, MTC, in partnership with the Bay Area Air Quality Management District (BAAQMD) and the Electric Vehicle Strategic Council, is in the process of developing an electric vehicles promotional campaign aimed at building awareness, action and demand for plug-in electric vehicles (PEV) and plug-in hybrid electric vehicles (PHEV) in the Bay Area. The purpose of the Electric Vehicle Promotional Campaign is to:

- Educate Bay Area residents about electric vehicles, including vehicle operation, differentiation between vehicle types and vehicle charging (e.g., charging station locations, charge times, miles per charge, etc.);
- Change the behavior of Bay Area drivers to purchase plug-in electric vehicles (PEV) and plug-in hybrid electric vehicles (PHEV), or use PEV or PHEV when offered the choice;
- Create awareness of the benefits of the use of electric vehicles (e.g., cost savings, convenience, regional economic and job benefits, environmental and health benefits, "fun to drive" and "cool factor");
- Promote the identity of the Bay Area as a center for high tech and green culture; and
- Motivate individuals to reduce their contribution to Bay Area GHG emissions.

We have selected a consultant and are beginning the campaign planning process, which should conclude in early 2013. Once completed, MTC staff will take the campaign plan to the Commission for approval to implement a regionwide campaign to be launched in mid- to late-2013.

Public Education and Outreach: School and Youth Outreach Program

In mid-2011, MTC, along with our program partner, BAAQMD, began implementing a new regional school and youth outreach program – Spare the Air Youth – aimed at inspiring school-aged children and their families to make specific changes to their travel habits to reduce GHG emissions. This program will educate youth about the impacts that vehicle-related emissions

have on the environment, encourage youth and their families to make travel choices that minimize GHG emissions when commuting to school or work or making trips close to home, and empower youth to educate their peers on the effects of GHGs from transportation sources.

The program will occur in two phases over four years. The first phase, which will last approximately 18 months, will conclude in September 2012 and will define the activities that will be used to develop the program scope, schedule and budget to be used in the program's second phase. Programs we tested in Phase I include museum education, youth ambassador programs, family bicycle education program, video contest, transit training, and 511 School Pool Tool promotion. Regional programs currently in development include a regional incentives program, translation services for Bay Area programs, a youth bicycle summit, and a program website. Once the first phase is complete, we will conduct an evaluation to the Phase II program scope, to be implemented in mid- to late-2013.

Safe Routes to School

The Safe Routes to School (SR2S) Program provides funding to the counties, further augmenting the federal and state SR2S programs, administered by Caltrans, and local programs. A total of \$15M was distributed to the counties proportionately according to their share of total school enrollment in the region. The county congestion management agencies (CMA) convened a collaborative county process in order to decide which investments make sense given that each county faces unique SR2S implementation challenges and which agency will implement the program. Most counties are funding education programs; however, a few schools will be putting the funding towards capital improvements to make biking and walking to school safer and easier.

Evaluation

All elements of the Climate Initiatives Program are being evaluated by ICF International in order to ascertain their effectiveness. The evaluation seeks to accomplish several key goals:

- Determine the emission reductions, cost effectiveness, and co-benefits of each major project and activity. The term “co-benefits” refers to societal benefits that occur in addition to primary emission reduction benefits that each project is expected to generate. Key co-benefits to be evaluated include:
 - Increase in physical activity
 - Reduction in air pollution and associated public health impacts
 - Improvement in roadway safety
 - Reduction in household transportation costs
 - Increase in public awareness of strategies to reduce emissions
- Identify key lessons learned to improve the design and implementation of future projects or programs and support replication of successful projects elsewhere in the Bay Area.

- Produce accessible resource documents to ensure that performance evaluation results and lessons are transferred to communities throughout the Bay Area.

The approach for evaluating travel and emissions impacts will differ for each project and program. Programs that seek to change behavior through outreach and education will likely be evaluated using before-and-after surveys of the target population. Projects that promote clean vehicle technologies will be evaluated by collecting data on the travel and energy use of the vehicles and comparing emissions with those of the vehicles they replace. Projects that seek to reduce vehicle mile of travel (VMT) will be evaluated using a combination of participant surveys, counts of vehicle activity, and other methods.

Climate Initiatives Program Overview

Policy Advisory Council
September 12, 2012



Climate Initiatives Program

- **Innovative Grants – \$31 million for 13 grants**
 - 4 Clean Vehicles
 - 4 Transportation Demand Management (TDM)
 - 4 Showcase
 - 1 Parking Management
- **Public Outreach and Education Program - \$6.3 million**
 - Smart Driving Pilots
 - Electric Vehicle Adoption Campaign
 - School and Youth Outreach Program
- **Safe Routes to School (SR2S) County Program & Creative Grants - \$17 million**
- **Program Evaluation - \$2 million**

Program Evaluation: Key Questions

- What are the **quantified estimates of change** before and after the implementation of the project or program?
- How effective is the project or program at **reducing GHG emissions** and criteria pollutant emissions?
- What are the **costs and benefits** of the project or program? How can the project/program be **replicated elsewhere in the Bay Area**? How can we **remove barriers** and support elements that would lead to successful implementation?
- What are some **key lessons** that we can learn from the project or program?
- Are there any **different or new approaches**, strategies or ways to make the project or program even more effective?

Program Evaluation: Co-Benefits

- Increase in physical activity
- Reduction in air pollution and associated public health impacts
- Reduction in household transportation costs
- Improvement in roadway safety
- Increase in public awareness of strategies to reduce emissions
- Reduction of barriers to clean vehicle adoption and use



Public Outreach Program: Smart Driving Pilots

1. Use of **in-vehicle devices measuring miles per gallon (MPG)**
2. Smart driving education
3. MPG **mobile applications**

Smart Driving Pilots

- Pilot participants will be recruited via the 511 website
- MTC pilot currently fielding participants, to begin next month, to conclude mid-2013
- ITS-Davis pilot part of larger state-wide pilot
- Results will determine whether to promote smart driving tactics to the region



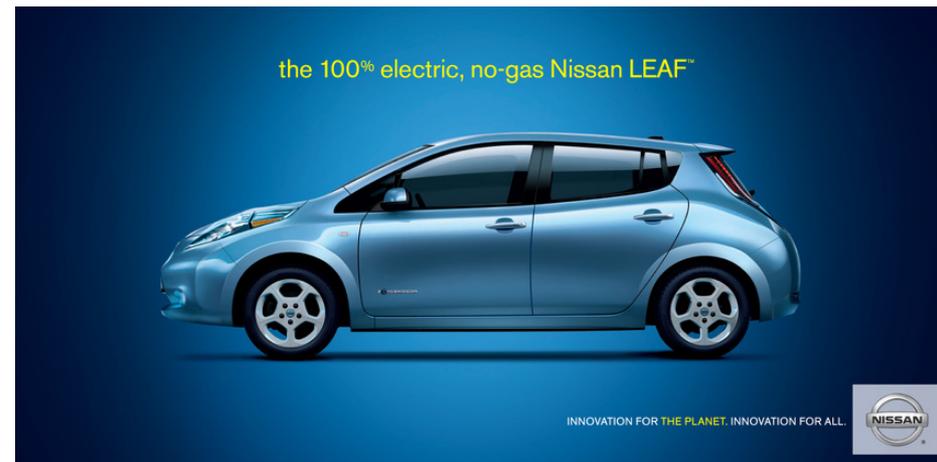
SMART DRIVING

Good for Your Pocketbook,
Good for the Air



Public Outreach Program: Electric Vehicle Campaign

- Recently procured a consultant to develop the campaign
- Campaign will be developed over 4 to 6 months
- Campaign's main goal: Encourage Bay Area drivers to purchase or use EVs when offered the choice
- Campaign will develop promotional messages and campaign activities
- Campaign plan will be presented to Commission prior to implementation



"Spare the Air Youth"

School and Youth Outreach Program



- \$3 million over 4 years
- Program implemented in two phases: testing and implementation
- Program encourages kids and their families to use alternative transportation
- Phase I concludes in September and will identify programs for Phase 2



Safe Routes to School

- Distributed \$15 million to the counties
- Counties decided projects based on local needs

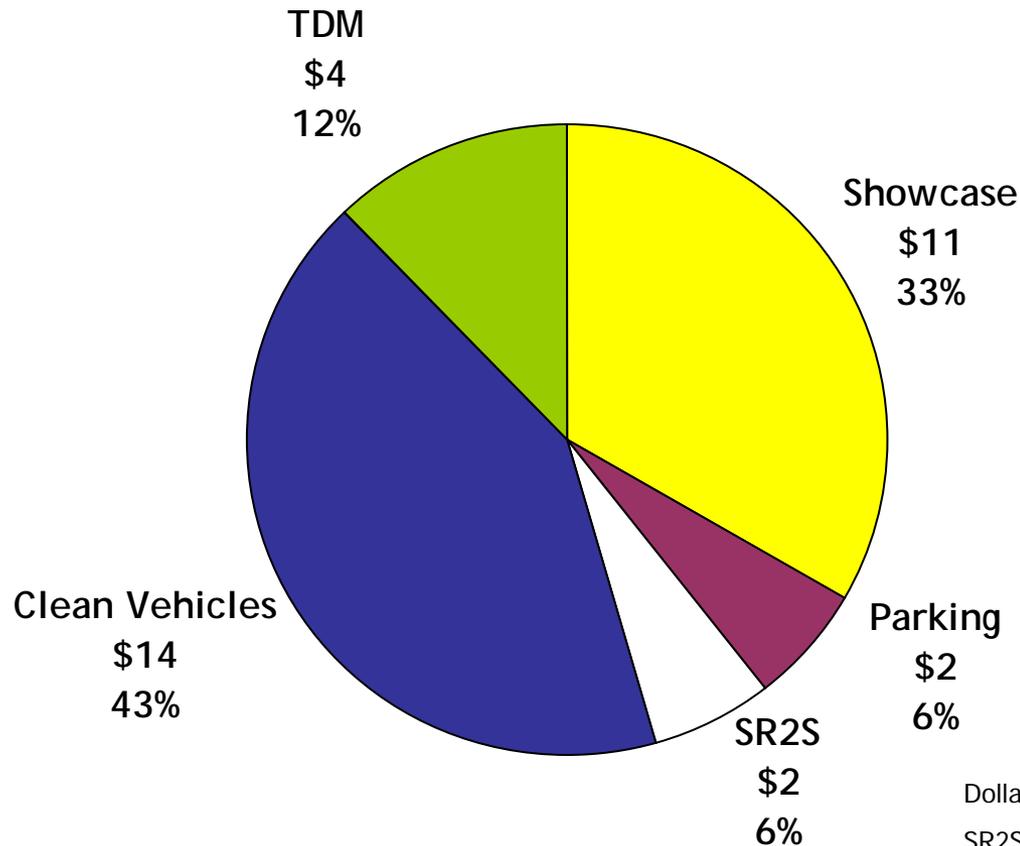


Innovative and SR2S Creative Grants: Goals and Objectives

- Measurably **reduce emissions** of greenhouse gases and criteria pollutants
- Have the greatest **potential for replication**
- Employ **multiple approaches together**, effectively layering them to produce synergy
- **Remove substantial barrier** – technical, financial, policy or political – that impedes successful implementation of a new strategy
- Pilot new strategies that **further best practices** in the SR2S field
- Build **effective collaboration** and partnerships

Innovative and SR2S Creative Grants: Funding Recommendations

Total: \$33 Million



Dollars shown in millions

SR2S: Safe Routes to School

TDM: Transportation Demand Management

Safe Routes to School Grant Funding: \$2 million

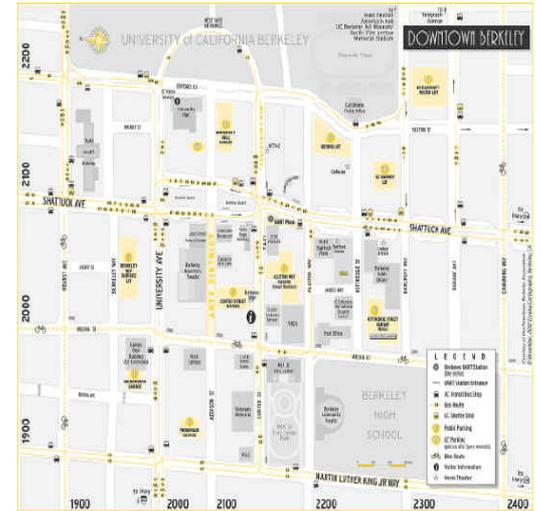
- **Bike mobile for repairs and education**
- Green Ways to Schools through social marketing
- Green Star Schools' climate curriculum and competitions
- GIS-based school route maps



Parking Pricing in Berkeley

Grant Funding: \$2 million

- **Parking pricing in commercial districts** (includes enforcement, Transportation Demand Management, GreenTrip certification, and incentives)



Transportation Demand Management Grant Funding: \$4 million

- **Dynamic ridesharing pilot in 3 counties**
- Creation of employer group to implement parking cashout
- Muni Partners shuttles coordination in San Francisco
- Grand Boulevard Initiative
- **Santa Rosa Automatic Vehicle Location System**



Showcase

Grant Funding: \$11 million

- **Bike sharing pilot** in San Francisco, San Mateo, and Santa Clara counties
- Port of Oakland's Shore Power Initiative
- Bicycle Detection Systems
- Cold in Place Recycling demos for road rehab



Clean Vehicles

Grant Funding: \$14 million

- **City CarShare EV Fleet**
- EV Taxis / Battery Switch Stations in San Francisco and San Jose
- Municipal EV Fleets and Smart Driving
- Tribal EVs



Looking Forward: Plan Bay Area Climate Program

Policy Initiative	2035 Cost In YOE millions	Per Capita CO2 Emissions Reductions in 2035	Cost per GHG Ton Reduced in 2035
Regional Electric Vehicle Charger Network	\$80	-0.3%	\$812
Vehicle Buy-Back & Plug-in or Electric Vehicle Purchase Incentive	\$120	-0.5%	\$684
Car Sharing	\$13	-2.8%	\$14
Vanpool Incentives	\$6	-0.6%	\$29
Clean Vehicles Feebate Program	\$25	-0.7%	\$108
Smart Driving Strategy	\$160	-2.2%	\$322
Commuter Benefits Ordinance	\$0	-0.3%	\$0
Climate Initiatives Innovative Grants	\$226	TBD	TBD
Total	\$700	-7.4%	

MTC Staff Contacts

Brenda Dix
Climate Initiatives
Program Coordinator
510-817-5927
bdix@mtc.ca.gov

Ursula Vogler
Climate Initiatives Outreach
Program Manager
510-817-5785
uvogler@mtc.ca.gov