Metropolitan Transportation Commission

- Created by the California Legislature in 1970
- Jurisdiction includes all 9 Bay Area counties
- Governed by a 19-member board of primarily local elected officials
- Responsibilities include:
  - Planning
  - Funding
  - Coordination
  - Operations
  - Advocacy
OVERVIEW OF CLIMATE PROGRAM
Regulatory Framework

• **Assembly Bill 32: Global Warming Solutions Act of 2006**
  • Requires GHG emissions in CA to drop to 1990 levels by 2020
    • Points the way towards an 80% reduction in GHG emissions by 2050

• **Senate Bill 375: Sustainable Communities Strategy (SCS)**
  • Requires integration of land use and transportation planning to reduce emissions from light duty vehicles

• **Plan Bay Area**
  • Region’s first integrated land use and transportation RTP / SCS
  • Designed to meet the GHG reduction goals set by the California Air Resources Board (CARB)
Purpose of the Climate Program

- MTC developed the Climate Program in December 2009 to help the region achieve the GHG reduction targets set forth in SB 375.
- In Plan Bay Area, the Climate Program accounts for **6.3%** (more than 1/3) of the achieved **16%** per capita GHG reductions by 2035.
Goals of MTC’s Climate Program

• Meet SB 375 GHG emission reduction requirements that mandate the region to reduce GHG emissions

• Test innovative transportation strategies / technologies that reduce GHG emissions, VMT, single occupancy vehicle travel, and support mode shift

• Promote co-benefits, such as improved public health and reduced transportation costs

• Replicate successful projects throughout the region
Plan Bay Area Climate Program

Plan Bay Area invests $630m over 25 years in Climate Program activities

<table>
<thead>
<tr>
<th>Policy Initiative</th>
<th>2035 Cost in YOE millions</th>
<th>Per Capita CO₂ Emissions Reductions in 2035</th>
<th>Cost per GHG Ton Reduced in 2035</th>
<th>Funds Expended to Date (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Benefits Ordinance</td>
<td>$0</td>
<td>-0.3%</td>
<td>$0</td>
<td>$.4</td>
</tr>
<tr>
<td>Car Sharing</td>
<td>$13</td>
<td>-2.6%</td>
<td>$14</td>
<td>$2</td>
</tr>
<tr>
<td>Vanpool Incentives</td>
<td>$6</td>
<td>-0.4%</td>
<td>$29</td>
<td>--</td>
</tr>
<tr>
<td>Clean Vehicles Feebate Program</td>
<td>$25</td>
<td>-0.7%</td>
<td>$108</td>
<td>--</td>
</tr>
<tr>
<td>Smart Driving Strategy</td>
<td>$160</td>
<td>-1.5%</td>
<td>$322</td>
<td>$.9</td>
</tr>
<tr>
<td>Vehicle Buy-Back &amp; Plug-in or Electric Vehicle Purchase Incentive</td>
<td>$120</td>
<td>-0.5%</td>
<td>$684</td>
<td>--</td>
</tr>
<tr>
<td>Regional Electric Vehicle Charger Network</td>
<td>$80</td>
<td>-0.3%</td>
<td>$812</td>
<td>--</td>
</tr>
<tr>
<td>Climate Initiatives Innovative Grants</td>
<td>$226</td>
<td>TBD</td>
<td>TBD</td>
<td>$44</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$630</strong></td>
<td><strong>-6.3%</strong></td>
<td><strong>$47.3</strong></td>
<td><strong>$44</strong></td>
</tr>
</tbody>
</table>
“Cycle 1” Investments

CLIMATE PROGRAM, $80M
(VALUES IN MILLIONS)

- Climate Action Program Evaluation, $4
- Eastern Solano CMAQ, $3
- Spare the Air Marketing, $4
- Spare the Air Youth, $3
- [CATEGORY NAME], $3
- [CATEGORY NAME], $15
- [CATEGORY NAME], $38
- [CATEGORY NAME], $3
- [CATEGORY NAME], $4
- [CATEGORY NAME], $3

(values in millions)
### “Cycle 2” Investments

<table>
<thead>
<tr>
<th>Program</th>
<th>Amount (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Area Bike Share Program*</td>
<td>$6</td>
</tr>
<tr>
<td>Car Sharing</td>
<td>$2</td>
</tr>
<tr>
<td>TDM Grant Program</td>
<td>$6</td>
</tr>
<tr>
<td>Electric Vehicle Incentives (TFCA funds provided by Air District)</td>
<td>$6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$20</strong></td>
</tr>
</tbody>
</table>

- Funding approved in April 2014
- Car Sharing grant program awarded projects in December 2014
- TDM Grant Program to release call for projects in Summer 2015
- *Funding for Bay Area Bike Share Program to be determined*
CYCLE 1 EVALUATION RESULTS
Cycle 1 Climate Program Evaluation Report

Program Timeline

2009
- MTC Adopts the Climate Program: $80 million available for projects

2010
- MTC issues call for innovative projects
- Grant projects selected

2011
- Evaluation methodology designed
- Project implementation begins
- Data collection begins

2012-13
- Project implementation and data collection ongoing

2014-15
- Most projects complete implementation
- Program evaluation completed
Cycle 1 Climate Program

Innovative Climate Program

• Transportation Demand Management (TDM)
• Parking Pricing
• Ridesharing
• Bicycle Projects
• Electric Vehicle (EV) Deployment
• Other Innovative Projects

Safe Routes to School Projects

Smart Driving

Experience Electric Campaign
Climate Program by the Numbers

19  
Number of projects

Reduced 5,165 tons GHG emissions/year, or approx. 1,087 cars off the road/year (1 car = approx. 5 CO₂/year)*

Total Project Costs (December 2014): $43,091,749

Total MTC Funding: $39,838,000

*Source: EPA Greenhouse Gas Equivalency Calculator
Evaluation Methodology

• Most Climate Program activities reduce emissions in one of two ways: reduce vehicle miles of travel (VMT) or deploy cleaner vehicles

• The evaluation of the Climate Program applied a common analytical framework to all projects, considering:
  ✓ Transportation Impacts
  ✓ Emissions Impacts
  ✓ Costs
  ✓ Co-Benefits
Transportation Demand Management (TDM)

Innovative Grant Program

Connect, Redwood City!
car sharing, bike sharing, short-distance vanpools, and telework/flex-schedules, and targeted outreach, with a focus on first / last mile connections

GHG Emission Reductions: 1,100-2,790 tons/yr
Cost Effectiveness: $290/ton-$697/ton

San Francisco Integrated Public/Private Partnership
shuttle partners, employer collaborations, employer parking management, inter-agency TDM strategy

GHG Emission Reductions: 5 tons/yr
Cost Effectiveness: $171,600/ton

SHUTTLES, CAR SHARING, VANPOOLING, TARGETED OUTREACH, EMPLOYER COLLABORATIONS
goBerkeley

Established time limits on parking and adjusted parking rates to increase parking efficiency and reduce circling; supplemented with a transit pass program, car sharing, and marketing.

GHG Emissions Reduction: 317 tons/yr
Cost Effectiveness: $9,792/ton

Percentage of surveyed drivers who found it “very easy” to find a parking space increased from 2% to 38%; percentage who found it “very” or “somewhat difficult” fell from 63% to 22%
Dynamic Rideshare Programs Demonstrated in Three Counties

Used a mobile app to match drivers and riders in real time. Deployed in Sonoma, Marin and Contra Costa Counties.

GHG Emissions Reduction: 10 tons/yr

Cost Effectiveness: $86,292

Household Transportation Costs: Typical savings of $5.57 per trip for riders and $2.63 per trip for drivers
Bicycle Projects
Innovative Grant Program

BikeMobile
Roving van that visits schools, recreation centers and community centers providing free bike repairs and safety education.

GHG Emissions Reduction: 201 tons/yr
Cost Effectiveness: $2,811/ton

Bay Area Bike Share
Bike sharing program deployed throughout 5 cities and 3 counties

GHG Emissions Reduction: 79 tons/yr
Cost Effectiveness: $17,643
Electric Vehicle (EV) Deployment

Innovative Grant Program

Local Government EV Fleet
Deployment of nearly 90 EVs and 90 Level 2 chargers to local government agencies
GHG Emission Reduction: 172 tons/yr
Cost Effectiveness: $1,679/ton

eFleet: Car Sharing Electrified
Deployment of 16 PEVs in CityCarshare fleet
GHG Emissions Reduction: 4 tons/yr
Cost Effectiveness: $100,745/ton

Tribal Community EV Pilot
Deployment of four EVs and six Level 2 chargers on tribal lands
GHG Emissions Reduction: 3 tons/yr
Cost Effectiveness: $12,274/ton
**Other Innovative Grant Programs**

**Innovative Grant Program**

**Shore Power**

Installed shore power technology at two berths at the Port of Oakland.

**GHG Emissions Reduction:** 534 tons/yr

**Cost Effectiveness:** $849

**Cold in Place Recycling**

Repaved two roadways in Napa using Cold in Place Recycling.

**GHG Emissions Reduction:** 493 tons/yr

**Cost Effectiveness:** -$2,477

**Enhanced Automatic Vehicle Locator System**

AVL deployed within the Santa Rosa CityBus fleet.

**GHG Emissions Reduction:** not quantified

**Cost Effectiveness:** not quantified
Safe Routes to School Projects

EDUCATIONAL PROGRAMS THAT TEACH STUDENTS ABOUT ALTERNATIVE TRANSPORTATION CHOICES

Bay Area School Transportation Collaborative
GHG Emissions Reduction: 297 tons/yr
Cost Effectiveness: $3,355/ton

Green Ways to School
GHG Emissions Reduction: 57 tons/yr
Cost Effectiveness: $7,491/ton

Regional Safe Routes to School (5 counties)
GHG Emissions Reduction: 202 tons/yr
Cost Effectiveness: $17,823/ton

Education and Encouragement School Route Maps
GHG Emissions Reduction: not quantified
Cost Effectiveness: not quantified
Smart Driving

Smart Driving Pilot Project

Two pilot studies evaluated the impacts of real-time driving in-vehicle devices, smartphone apps, and educational elements on driver behavior and fuel economy. The pilot programs tested the ability to improve fuel efficiency.

Lessons Learned/Results:

• To get accurate results, three is a cumbersome installation and data retrieval process
• Results of pilots mixed, but showed promise for some aspects
• MTC is expanding efforts focusing on successful elements of pilots and a more robust public education effort

“Smart driving” refers to a set of strategies and techniques that maximize motor vehicle fuel efficiency by improving driving habits and vehicle maintenance.
“Experience Electric” Campaign

Experience Electric – The Better Ride

Ride-and-drive campaign that sought to build awareness and demand for plug-in electric vehicles.

Ride and Drive Events: Twenty-one ride-and-drive events were held in 8 of the 9 Bay Area counties.

Message Amplification: Photos and testimonials from events were distributed through social media.

Events were a success: After the events, 11% of participants later purchased EVs; three quarters of those stated that the event influenced their decision to purchase/lease an EV.

Barriers Remain: At the events, participants noted that difficulty finding a charging station on the road and limited driving range were the most widely perceived barriers to owning and EV.
FUTURE CLIMATE PROGRAM
Future of Climate Program

• Continue to develop and implement programs that reduce GHG emissions
  • Car Sharing Grant Program: Awarded funding for 6 projects to deploy car sharing
  • TDM Grant Program

• Use Cycle 1 evaluation results to guide future investments and the Plan Bay Area 2040 Climate Program
  • TDM Projects
  • EV Deployment
  • Parking Pricing Projects
  • Smart Driving
  • Shuttles and Vanpools
Future Climate Program (cont.)

• Explore new initiatives and technologies with the potential to reduce GHG emissions
  • Low Rolling Resistance Tires
  • Incident Management
  • Autonomous Vehicle Deployment
  • Zero Emissions Transit Vehicles
  • Community Based Marketing
Contact Information

Stefanie Hom  
shom@mtc.ca.gov  
510.817.5756

Ursula Vogler  
uvogler@mtc.ca.gov  
510.817.5785

Jeffrey Ang-Olson  
jeffrey.ang-olson@icfi.com  
916.231.7674