

APPENDIX A

APPLICATION

TARGETED CAR SHARING AND MOBILITY OPTIONS IN DISADVANTAGED COMMUNITIES PILOT PROJECT (CAR SHARING PILOT PROJECT)

FISCAL YEAR 2014-15
LOW CARBON TRANSPORTATION
INVESTMENTS

California Environmental Protection Agency

 **Air Resources Board**

APPLICATION

Print clearly or type all information on this application.

1. Project: Click here to enter text.		
2. Company Name/Air District/Organization Name/Individual Name: Click here to enter text.		
3. Business Type: Click here to enter text.		
4. Contact Name and Title: Click here to enter text.		
5. Person with Contract Signing Authority (if different from above)/Air Pollution Control Officer (APCO): Click here to enter text.		
6. Mailing Address and Contact Information:		
Street: Click here to enter text.		
City: Click here to enter text.	State: Click here to enter text.	Zip Code: Click here to enter text.
Phone: (XXX) XXX-XXX	Fax: (XXX) XXX-XXX	
E-mail: Click here to enter text.		
<input type="checkbox"/> I have read and understood the terms and conditions of the Sample Grant Agreement.		

I hereby certify under penalty of perjury that all information provided in this application and any attachments are true and correct.

Printed Name of Responsible Party or APCO: Click here to enter text.	Title: Click here to enter text.
Signature of Responsible Party or APCO:	Date:

Third Party Certification (if applicable)

I have completed the application, in whole or in part, on behalf of the applicant.

Printed Name of Third Party: Click here to enter text.	Title: Click here to enter text.
Signature of Third Party:	Date:
Amount Being Paid for Application Completion in Whole or Part: Click here to enter text.	Source of Funding to Third Party: Click here to enter text.

Attachment 1: APPLICANT QUALIFICATIONS

1. Qualifications Narrative: Provide an attachment describing your experience and expertise developing, implementing, or administering similar projects and working with or outreaching to disadvantaged or other communities and identify how this background will enable you to efficiently and effectively administer the Car Sharing Pilot Project. Also identify the partnerships, electric vehicle supply equipment (EVSE), match funding, or other resources you have available to commit to this project.
2. Staff Information: Include information for each staff member to be involved in developing, implementing, or administering the Car Sharing Pilot Project. Clearly identify staff proposed for day-to-day project administration. Attach resumes.

Name:	Hourly rate:
Phone:	Email:
Title:	
Expected duties:	

This table is a suggestion. If more room is needed, the information may be recreated by the applicant and attached.

3. Subcontractor Information: Applicants may partner with other entities. Responsibility for deliverables lies with the primary applicant. Provide the names and information for any and all subcontractors and partners. Attach resumes and letters of commitment.

Name:	Hourly rate:
Phone:	Email:
Title:	
Expected duties:	

This table is a suggestion. If more room is needed, the information may be recreated by the applicant and attached.

Attachment 2: PROPOSED BUDGET

Describe the proposed budget for completing the tasks of the Car Sharing Pilot Project, consistent with the Sample Grant Agreement, your Project Administration Plan, and the requirements of the solicitation. The Proposed Budget should reflect the optimum project scale to ensure success of the proposed project. Applicants should be aware that more than one project may be selected and the available funds may be divided and support more than one project.

The proposed budget must include all estimated labor and material costs associated with managing the project, a description of any applicable commitments for in-kind services and match funding, records retention, and transfer of records to ARB. The budget must include total costs to purchase vehicles, install electric vehicle supply equipment (EVSE), provide participant subsidies, develop a reservation system, conduct surveys, report data, and offer car sharing services to a disadvantaged community for at least one full year from the date that participants begin using the project. Applicants may use the Sample Proposed Budget to summarize their proposed budget.

The proposed budget must identify any in-kind services to be offered, resources, or services contributed by Grantee to manage the project but not be charged to the Car Sharing Pilot Project. Be specific, i.e., itemize staff time or other costs that are being committed. In-kind services provided in the form of outreach efforts must be appropriate for community being served. In-kind services committed in this application must be documented by Grantee in the Final Report. If indirect costs are used to document Grantee's costs to administer the Car Sharing Pilot Project, Grantee must provide an official written policy regarding calculation of these costs to ARB as part of the application package.

Match funding refers to funds contributed by Grantee to the Car Sharing Pilot Project to fund the purchase of vehicles, EVSE, or other eligible aspects of the project. Only direct match funding contributed to the Car Sharing Pilot Project will be considered in scoring this application. The applicant must include a letter describing and authorizing any proposed match funding commitment as part of this application.

This proposed budget template provided may be modified to meet the applicant's needs or the applicant may provide their own budget. All proposed funding and expenses must be estimated and identified. Applicant may attach explanatory comments on budget details.

Sample Proposed Budget

External Funding	Budget Amount
Grant Funds	
Matching Funds	
Membership/Participant Fees	
In-Kind Contribution	
Other Funds	
Subtotal	
Expenses	Budget Amount
Salaries and Wages	
Project Manager	
Assistant Project Manager	
Administration/Record Keeping	
Computer Technician	
Data Analysis Staff	
Outreach Staff	
Customer Service Staff	
Maintenance Staff	
Subtotal	
Vehicles and EVSE	
Vehicle Purchase or Lease	
Maintenance	
Insurance	
Telematics	
EVSE	
Parking permits	
Subtotal	
Operation	
Rent	
Utilities	
Equipment & Supplies	
Reservation System	
Participant Subsidies	
Outreach and Education	
Reporting	
Records Retention/Transfer to ARB	
Subtotal	
Total Budget	

Attachment 3: PROJECT ADMINISTRATION PLAN

Provide a Project Administration Plan for completing tasks required of the Car Sharing Pilot Project Grantee as outlined in Exhibit A of the Sample Grant Agreement. Be specific. Where applicable, provide examples of past successfully completed similar tasks. The plan must include:

1. Narrative that presents a clear and concise description of how key tasks will be completed.
2. Timeline for plan implementation that identifies key tasks and milestone dates from inception through project completion.
3. Disadvantaged community that the project intends to benefit, identified by Zip Code or Census Tract. Explanation of who the project participants will be and how the project will benefit the disadvantaged community.
4. Plan for project outreach and education to the identified disadvantaged community.
5. Data the project will collect from initial and on-going project surveys of participants, the vehicles and EVSE that serve the project, fuel use, vehicle usage data, community co-benefits data, and how this data will be reported to ARB.

Attachment 4: ESTIMATED EMISSION REDUCTIONS FOR SCORING

Use the worksheets below to provide an initial estimate of the greenhouse gas (GHG) and criteria pollutant emission reductions resulting from one year of project operation. The sole purpose of these worksheets is for scoring purposes. If a project is selected, ARB will provide a revised emission reduction calculation and reporting methodology that is tailored to the specific project. Grantee(s) must update emission reduction calculations and assumptions using ARB approved quantification methodologies as they become available and as more reliable and accurate project data becomes available.

These worksheets employ a simplified methodology that encompasses the two main possible projects types—traditional car sharing and vanpools (see Section VI of the Solicitation). These worksheets calculate estimates of the annual emissions reduced by replacing the miles driven by a conventional fleet with miles driven by an advanced technology fleet, which includes plug-in hybrid electric vehicles (PHEV), battery electric vehicles (BEV), fuel cell electric vehicles (FCEV), or a combination.

All applications must submit at least one completed Car Sharing or Vanpool worksheet. Use the Car Sharing Worksheet for a project that is similar to the traditional car sharing model, use the Vanpool Worksheet for a project similar to the vanpooling model, or complete both worksheets if the proposed project contains aspects of both project types.

The worksheets may not account for all possible project types. In addition to submitting at least one of the completed worksheets as they are presented below, applicants may submit alternate emissions reductions estimate calculation worksheets that are tailored to a project. Alternate worksheets must clearly illustrate and explain the specific values employed, the assumptions used, and the estimated GHG and criteria pollutant emission reductions that result. These calculations may be used for scoring purposes at ARB's sole discretion.

Estimated Car Sharing Emissions Calculations Worksheet for Project Scoring

Inputs

Provide project details to be used as inputs to calculate an estimate of the annual GHG and criteria pollutant emissions for the proposed project. Explanations on the assumptions are included below.

Applicant Inputs	
Vehicles	_____ <i>vehicles</i>
Trips/Day	_____ <i>trips</i>
Miles/Trip	_____ <i>miles</i>
Days/Year	_____ <i>days</i>
% PHEVs	_____ <i>% PHEV</i>

- Vehicles The number of eligible project advanced technology vehicles.
- Trips/Day The average number of one-way trips driven per day per vehicle.
- Miles/Trip The average number of miles traveled per trip.
- Days/Year The number of days per year that vehicles would be available for use.
- % PHEVs Percentage of the project vehicles that are PHEVs and assumes remainder are zero-emission BEVs or FCEVs.

Calculate the Vehicle Miles Traveled (VMT)

The formulas below will use the inputs from the table above to calculate vehicle miles traveled and emissions reductions.

Step 1: Calculate the Total Combined VMT of fleet:

$$\begin{array}{c}
 \boxed{\text{Vehicles}} \times \boxed{\text{Trips/Day}} \times \boxed{\text{Miles/Trip}} \times \boxed{\text{Days/Year}} = \\
 \text{_____} = \boxed{\text{VMT}}
 \end{array}$$

Emission Factors (EF)

The table below contains the emission factors to input in the formulas as directed. The emissions factors were derived from the Mobile Source Emissions Inventory EMFAC2011¹ for light duty vehicles which provides tailpipe emissions factors. These inputs are explained as follows:

Emissions Factors (EF)	
GHG EF Conv Auto	349 <i>grams/mile</i>
GHG EF PHEV	245 <i>grams/mile</i>
Criteria EF Conv Auto	0.165 <i>grams/mile</i>
Criteria EF PHEV	0.035 <i>grams/mile</i>

¹ <http://www.arb.ca.gov/emfac/>

GHG EF Conv Auto Greenhouse Gas Emissions Factor of Conventional Automobiles. The average GHG emissions factor of a conventional light duty vehicle in grams per mile.

GHG EF PHEV Greenhouse Gas Emissions Factor of Plug-In Hybrid Automobiles. The average GHG emissions factor of a new plug-in hybrid light duty vehicle in grams per mile. This assumption incorporates that 30 percent of the time the vehicle will be driven in all-electric mode.

Criteria EF Conv Auto Criteria Pollutant Emissions Factor of Conventional Automobiles. The average criteria pollutant emissions factor a conventional light-duty vehicle in grams per mile. This emission factor accounts for Oxides of Nitrogen (NOx), Particulate Matter 2.5 (PM 2.5), and Hydrocarbons (HC).

Criteria EF PHEV Criteria Pollutant Emissions Factor of Plug-In Hybrid Automobiles. The average criteria pollutant emissions factor of a plug-in hybrid light duty vehicle in grams per mile. This assumption incorporates that 30 percent² of the time the vehicle will be driven in all-electric mode. This emission factor accounts for Oxides of Nitrogen (NOx), Particulate Matter 2.5 (PM 2.5), and Hydrocarbons (HC).

Calculate GHG Emissions Reductions

GHG emissions reduction calculations are based on the difference between the emissions produced by conventional vehicles and supported advanced technology vehicles. The difference is based on the assumption that if the vehicle used were not a part of this program, a fleet average conventional vehicle would be used to make the trips in lieu of the advanced technology vehicle.

Step 1: Calculate the GHG emissions produced of conventional vehicles that would have been used in lieu of advanced technology vehicles for trips

GHG emissions from conventional vehicles

$$\boxed{\text{VMT}} \times \boxed{\text{GHG EF Conv Auto}} =$$

_____ grams of **GHG emissions from conventional autos**

Step 2: Calculate the GHG emissions of supported advanced technology vehicles. Please note: if the overall proposed fleet will consist of zero-emission vehicles, such as battery electric or fuel cell electric vehicles, the GHG emissions produced by these vehicles will be zero.

GHG emissions from advanced technology vehicles

$$\boxed{\text{VMT}} \times \boxed{\text{GHG EF PHEV}} \times \boxed{\% \text{ PHEVs}} =$$

_____ grams of **GHG emissions from advanced autos**

² Staff assumption for the purposes of this estimate worksheet only.

Step 3: Calculate the GHG emissions reduction from support advanced technology vehicles. This step also includes the conversion of grams to MTCO₂, metric tons of CO₂, of GHG emissions benefits.

GHG emissions reductions

$$\boxed{\text{GHG emissions from conventional autos}} - \boxed{\text{GHG emissions from advanced autos}} =$$

_____ grams of GHG emissions reduced

$$\div 1,000,000 \text{ (Converts grams to MTCO}_2\text{)} =$$

$$\boxed{\hspace{2cm}} \text{ MTCO}_2 \text{ of GHG emissions reduced}$$

Calculate Criteria Pollutant Emissions Reductions

Step 4: Calculate the criteria pollutant emissions produced of conventional vehicles that would have been used in lieu of advanced technology vehicles for trips

$$\boxed{\text{VMT}} \times \boxed{\text{Criteria EF Conv Auto}} =$$

_____ grams of $\boxed{\text{Criteria Pollutant emissions from conventional autos}}$

Step 5: Calculate the criteria pollutant emissions of supported advanced technology vehicles. Please note: if the overall proposed fleet will consist of zero-emission vehicles, such as battery electric or fuel cell electric vehicles, the criteria pollutant emissions produced by these vehicles will be zero.

Criteria Pollutant emissions from supported advanced technology vehicles

$$\boxed{\text{VMT}} \times \boxed{\text{Criteria EF PHEV}} \times \boxed{\% \text{ PHEVs}} =$$

_____ grams of $\boxed{\text{Criteria pollutant emissions from advanced autos}}$

Step 6: Calculate the criteria pollutant emissions reduction from support advanced technology vehicles. This step also includes the conversion of grams to tons of criteria pollutant emissions benefits.

Criteria pollutant emission reduction from supported advanced technology vehicles

$$\boxed{\text{Criteria pollutant emissions from conventional autos}} - \boxed{\text{Criteria pollutant emissions from advanced autos}} =$$

_____ grams of Criteria pollutant emissions reduced

$$\div 907, 200 \text{ (Converts grams to tons)} =$$

$$\boxed{\hspace{2cm}} \text{ tons of criteria pollutant emissions reduced}$$

Estimated Vanpool Emissions Calculations Worksheet for Project Scoring

Inputs

Please provide project details to be used as inputs to calculate an estimate of the GHG and criteria pollutant emissions. Explanations on the assumptions are included below.

Applicant Inputs	
Vans	_____ <i>vans</i>
Trips/Day	_____ <i>trips</i>
Miles/Trip	_____ <i>miles</i>
Days/Year	_____ <i>days</i>
% PHEVs	_____ %
Riders	_____ <i>riders</i>
% Riders Who Drove Alone	_____ %
% Riders Driving to Vanpool	_____ %
Miles to Vanpool	_____ <i>miles</i>

Vans - The number of eligible project advanced technology vans or vanpool vehicles.

Trips/Day - The average number of one-way trips driven per day per vehicle.

Miles/Trip - The average number of miles traveled per trip.

Days/Year - The number of days per year that a vehicle would be available for use. The suggested input for daily services is 365 days. The suggested input for weekday only vanpools is 260 days.

% PHEVs - The percentage of the vanpool vehicles that are PHEVs and assumes remainder are zero-emission BEVs or FCEVs.

Riders - The average number of riders or passengers on a vanpool per trip.

% Riders Who Drove Alone - The percentage of the average number of riders that, without the vanpool, would travel alone with no other passengers in a conventional vehicle. The percentage needs to be inputted in decimal form. The suggested input is 83 percent if project details are unknown at the time of application submission.

% Riders Driving to Vanpool - The percentage of the average number of riders that use a conventional vehicle to drive to the vanpool pick-up site. The percentage needs to be inputted in decimal form. The suggested input is 75 percent if project details are unknown at the time of application submission.

Miles to Vanpool - The average number of miles a rider would drive from their starting destination, likely their home, to the vanpool pick-up site. The suggested input is 5 miles if project details are unknown at the time.

Emission Factors (EF)

The table below contains the emission factors to input in the formulas as directed. The emissions factors were derived from the Mobile Source Emissions Inventory (EMFAC2011)³ which provides tailpipe emissions factors. These inputs are explained as follows:

Emissions Factors (EF)	
GHG EF Conv Auto	349 <i>grams/mile</i>
GHG EF PHEV	333 <i>grams/mile</i>
Criteria EF Conv Auto	0.165 <i>grams/mile</i>
Criteria EF PHEV	0.0395 <i>grams/mile</i>

GHG EF Conv Auto - Greenhouse Gas Emissions Factor of Conventional Automobiles. The average GHG emissions factor of a conventional light duty vehicle in grams per mile.

GHG EF PHEV - Greenhouse Gas Emissions Factor of Plug-In Hybrid Vans or Vanpool vehicles. The average GHG emissions factor of a new plug-in hybrid light duty vehicle in grams per mile. This assumption incorporates that 30 percent of the time the vehicle will be driven in all-electric mode.

Criteria EF Conv Auto - Criteria Pollutant Emissions Factor of Conventional Automobiles. The average criteria pollutant emissions factor a conventional light-duty vehicle in grams per mile. This emission factor accounts for Oxides of Nitrogen (NOx), Particulate Matter 2.5 (PM 2.5), and Hydrocarbons (HC).

Criteria EF PHEV - Criteria Pollutant Emissions Factor of Plug-In Hybrid Vans or Vanpool vehicles. The average criteria pollutant emissions factor of a plug-in hybrid light duty van in grams per mile. This assumption incorporates that 30 percent of the time the vehicle will be driven in all-electric mode. This emission factor accounts for Oxides of Nitrogen (NOx), Particulate Matter 2.5 (PM 2.5), and Hydrocarbons (HC).

Calculate Emissions Reductions from Auto Trips Reduced

Calculate the vehicle miles traveled (VMT) reduced for automobiles. This formula uses the miles driven by the vanpool multiplied by the number of riders who formerly traveled alone, while also accounting for the miles driven to the vanpool site.

³ <http://www.arb.ca.gov/emfac/>

Step 1: Calculate the amount of automobile trips reduced annually

$$\boxed{\text{Vans}} \times \boxed{\text{Days/Year}} \times \boxed{\text{Trips/Day}} \times \boxed{\text{Riders}} =$$

$$\text{_____ trips} = \boxed{\text{Auto Trips Reduced}}$$

Step 2: Calculate the adjusted automobile miles traveled annually per trip. This formula takes into account the variability in driving behaviors of potential vanpool participant prior to the launch of the project.

$$\left[\boxed{\text{Miles/Trip}} - \left(\boxed{\text{Miles to Vanpool}} \times \boxed{\% \text{ Riders Driving to Vanpool}} \right) \right] \times$$

$$\boxed{\% \text{ Riders Driving Alone}} =$$

$$\text{_____} = \boxed{\text{Adjusted Miles/Trip}}$$

Step 3: Calculate total adjusted automobile VMT reduced

$$\boxed{\text{Auto Trips reduced}} \times \boxed{\text{Adjusted Miles/Trip}} =$$

$$\text{_____} = \boxed{\text{Auto VMT reduced}}$$

Step 4: Calculate the GHG emissions of conventional vehicles reduced by vanpool service.

GHG emissions reduced from automobiles

$$\boxed{\text{Auto VMT reduced}} \times \boxed{\text{GHG EF Conv Auto}} =$$

$$\text{_____ grams} = \boxed{\text{GHG Emissions Reduced from Autos}}$$

Step 5: Calculate the Criteria pollutant emissions of conventional vehicles reduced by vanpool service.

Criteria pollutant emissions reduced from automobiles

$$\boxed{\text{Auto VMT reduced}} \times \boxed{\text{Criteria EF Conv Auto}} =$$

$$\text{_____ grams} = \boxed{\text{Criteria Pollutant Emissions Reduced from Autos}}$$

Calculate Emissions Produced from Vanpool

Step 6: Total Van Miles Traveled Annually

$$\boxed{\text{Vehicles}} \times \boxed{\text{Trips/Day}} \times \boxed{\text{Miles/Trip}} \times \boxed{\text{Days/Year}} =$$

$$\underline{\hspace{10em}} = \boxed{\text{Annual Van VMT}}$$

Step 7: Calculate the GHG emissions produced by vanpool fleet

GHG emissions produced by vanpool fleet

$$\boxed{\text{Annual Van VMT}} \times \boxed{\text{GHG EF PHEV}} \times \boxed{\% \text{ PHEVs}} =$$

$$\underline{\hspace{10em}} \text{ grams of } \boxed{\text{GHG Emissions from Vans}}$$

Step 8: Calculate the Criteria pollutant emissions produced by advanced fleet of vans

Criteria pollutant emissions produced by vanpool fleet

$$\boxed{\text{Annual Van VMT}} \times \boxed{\text{Criteria EF PHEV}} \times \boxed{\% \text{ PHEVs}} =$$

$$\underline{\hspace{10em}} \text{ grams of } \boxed{\text{Criteria Pollutant Emissions from Vans}}$$

Calculate Total Emissions Reductions from Vanpool Service

The emissions produced by the funded vanpools will be subtracted emissions reductions of automobiles to estimate the total emissions reductions.

Step 9: Calculate the total GHG emissions reductions of the vanpool service

GHG emissions reductions

$$\boxed{\text{GHG Emissions Reduced from Autos}} - \boxed{\text{GHG Emissions from Vans}} =$$

$$\underline{\hspace{10em}} \text{ grams of GHG emissions reduced}$$

$$\div 1,000,000 \text{ (Converts grams to MTCO}_2\text{)} =$$

$$\boxed{\hspace{10em}} \text{ MTCO}_2 \text{ of GHG emissions reduced}$$

Attachment 5: CONFLICT OF INTEREST DECLARATION

All applicants must disclose any Conflict of Interest in fulfilling the duties of the Car Sharing Pilot Project Grantee. Summarize your organization's or any subcontractor's current, ongoing, or pending direct or indirect interest, which poses an actual, apparent, or potential conflict of interest with your ability to fulfill the duties of Grantee. ARB may consider the nature and extent of any potential or apparent conflict of interest in evaluating, considering, or scoring the application and may disqualify the applicant at ARB's sole discretion.

Attachment 6: STD. 204 PAYEE DATA RECORD

Submit a completed STD. 204 Payee Data Record:

<http://www.dgs.ca.gov/dgs/ProgramsServices/Forms/FMC/search/resultsNumber.aspx?number=204>