



**CALIFORNIA
ENERGY COMMISSION**



**California Energy Commission
June 16, 2023 Business Meeting Backup
Materials for Agenda Item No 03j:
Resource Systems Group, Inc.**

The following backup materials for the above-referenced agenda item are available in this PDF packet as listed below:

1. Proposed Resolution
2. Contract Request Form
3. Scope of Work

STATE OF CALIFORNIA
STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Resource Systems Group, Inc.

RESOLVED, that the State Energy Resources Conservation and Development Commission (CEC) adopts the staff CEQA findings contained in the Agreement or Amendment Request Form (as applicable); and

RESOLVED, that the CEC approves agreement 800-22-009 with Resource Systems Group, Inc. for \$1,179,768 contract to conduct a survey of residential and commercial light duty vehicle buyers in California. The survey data is used to build vehicle choice models that assess consumer response to different policy incentives, as well as consumer preferences for different vehicle technologies, including autonomous vehicles. The survey will also seek consumer feedback on vehicle-to-grid technologies; and

FURTHER BE IT RESOLVED, that the Executive Director or their designee shall execute the same on behalf of the CEC.

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the CEC held on June 16, 2023.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

Liza Lopez
Secretariat



CONTRACT REQUEST FORM (CRF)

A. New Agreement Number

IMPORTANT: New Agreement # to be completed by Contracts, Grants, and Loans Office.

New Agreement Number: 800-22-009

B. Division Information

1. Division Name: Energy Assessments
2. Agreement Manager: Aniss Bahreinian
3. MS-41
4. Phone Number: (916) 931-8367

C. Contractor's Information

1. Contractor's Legal Name: Resource Systems Group, Inc.
2. Federal ID Number: 02-0405879

D. Title of Project

Title of project: 2023 California Vehicle Survey

E. Term and Amount

1. Start Date: 8-01-2023
2. End Date: 6-30-2025
3. Amount: \$1,179,768

F. Business Meeting Information

1. Operational agreement to be approved by Executive Director? No
2. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
3. The Proposed Business Meeting Date: June 16, 2023
4. Consent or Discussion? Consent
5. Business Meeting Presenter Name:
6. Time Needed for Business Meeting:
7. The email subscription topic is: agendas

Agenda Item Subject and Description:

Proposed resolution approving 800-22-009 with Resource Systems Group, Inc. for \$1,179,768 contract to conduct a survey of residential and commercial light duty vehicle buyers in California. The survey data is used to build vehicle choice models that assess consumer response to different policy incentives, as well as consumer preferences for different vehicle technologies, including autonomous vehicles. The survey will also seek consumer feedback on vehicle-to-grid technologies. (ARFVTP and COIA funding) Contact: Aniss Bahreinian

G. California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?

No

If yes, skip to question 2.

If no, complete the following (PRC 21065 and 14 CCR 15378) and explain why Agreement is not considered a "Project":



Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because the project only involves technical assistance from a contractor to design and distribute an online questionnaire about vehicle preferences and analyze the survey results.

2. If Agreement is considered a "Project" under CEQA answer the following questions.

a) Agreement IS exempt?

No

Statutory Exemption?

No

If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

PRC section number: None

CCR section number: None

Categorical Exemption?

No

If yes, list CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

CCR section number: None

Common Sense Exemption? 14 CCR 15061 (b) (3)

No

If yes, explain reason why Agreement is exempt under the above section. If no, enter "Not applicable" and go to the next section.

b) Agreement IS NOT exempt.

IMPORTANT: consult with the legal office to determine next steps.

No

If yes, answer yes or no to all that applies. If no, list all as "no" and "None" as "yes".

Additional Documents	Applies
Initial Study	No
Negative Declaration	No
Mitigated Negative Declaration	No
Environmental Impact Report	No
Statement of Overriding Considerations	No
None	Yes

H. Subcontractors

List all Subcontractors listed in the Budget (s). Insert additional rows if needed. If no subcontractors to report, enter "No subcontractors to report" and "0" to funds. **Delete** any unused rows from the table



Subcontractor Legal Company Name	Budget
SOURCEONE COMMUNICATIONS	\$ 301,548

I. Key Partners

List all key partner(s). Insert additional rows if needed. If no key partners to report, enter "No key partners to report." **Delete** any unused rows from the table.

Key Partner Legal Company Name
No Key Partner

J. Budget Information

Include all budget information. Insert additional rows if needed. If no budget information to report, enter "N/A" for "Not Applicable" and "0" to Amount. **Delete** any unused rows from the table.

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
ARFVTP	2023-2024	600.118J	\$600,000
COIA	2024-2025	800.005	\$379,768
Caltrans	2024-2025		\$200,000

TOTAL Amount: \$1,179,768

R&D Program Area: N/A

Explanation for "Other" selection: N/A

Reimbursement Contract #: N/A

Federal Agreement #: N/A

K. Contractor's Contact Information

1. Contractor's Administrator/Officer

Name: Stephen Lawe

Address: 55 Railroad Row

City, State, Zip: White River Junction, VT, 05001

Phone: (802) 299-7370

E-Mail: Stephen.Lawe@rsginc.com

2. Contractor's Project Manager

Name: Mark Fowler

Address: 55 Railroad Row

City, State, Zip: White River Junction, VT, 05001



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Phone: (802) 299-7370

E-Mail: Mark.Fowler@rsginc.com

Contract Request Form
CEC-94 (Revised 04/2023)

L. Selection Process Used

There are three types of selection process. List the one used for this CRF.

Selection Process	Additional Information
Competitive Solicitation #	RFP 22-804, 3 bidders, Highest Score

M. Contractor Entity Type

Contractor Entity Type	Yes or No?
Private Company (<i>including non-profits</i>)	Yes
CA State Agency (<i>including UC and CSU</i>)	No
Government Entity (<i>i.e. city, county, federal government, air/water/school district, joint power authorities, university from another state</i>)	No

N. Is Contractor a certified Small Business (SB), Micro Business (MB) or Disabled Veterans Business Enterprise (DVBE)?

The contractor is a certified: N/A.

O. Civil Service Considerations

- Not Applicable (Agreement is with a CA State Entity or a membership/co-sponsorship)? No
- Public Resources Code 25620, et seq., authorizes the Commission to contract for the subject work. (PIER) No
- The Services Contracted: Yes.

If no, go to the next question. If yes, which of the following applies to the contract? More than one can apply, list each answer choice, and separate them with a comma:

- are not available within civil service
- cannot be performed satisfactorily by civil service employee
- are of such a highly specialized or technical nature that the expert knowledge, expertise, and ability are not available through the civil service system

The following applies to the contract: are of such a highly specialized or technical nature that the expert knowledge, expertise, and ability are not available through the civil service system.

- The Services are of such an urgent, temporary, or occasional nature that the delay to implement under civil service would frustrate their very purpose?

Temporary and/or occasional.



Justification:

State does not have the required technical tools and the corresponding level of staff and experience to complete this project in the designated amount of time necessary to meet the state technical analysis needs.

P. Payment Method

1. Is the payment method Reimbursement, Advanced Payment, or Other?
Reimbursement.
If Other, explain:
2. If Reimbursement, is it in arrears based on Itemized Monthly, Itemized Quarterly, Flat Rate, or One-time?
Itemized Monthly.

Q. Retention

Is Agreement subject to retention? Yes.

If Yes, Will retention be released prior to Agreement termination? No.

R. Justification of Rates

This was a competitive solicitation and cost points were 30% of the total score. The rates provided are consistent with industry standards.

S. Disabled Veteran Business Enterprise Program (DVBE)

Provide requested additional information.

1. Exempt (Interagency/Other Government Entity): No.
2. Meets DVBE Requirements DVBE Yes
Amount: \$ 152,500 DVBE %:12.9%
3. Is the Contractor Certified DVBE or Subcontracting with a DVBE? If subcontracting with a DVBE, provide the name of the DVBE company. If none applies, enter "Not Applicable".
Subcontracting with a DVBE, SourceOne Communications
4. Contractor selected through CMAS or MSA with no DVBE participation: No.
5. Requesting DVBE Exemption (attach CEC 95): No.

T. Miscellaneous Agreement Information

1. Will there be Work Authorizations? No.
2. Is the contractor providing confidential information? Yes.
3. Is the contractor going to purchase equipment? No.
4. What is the check frequency of the progress reports? Monthly, Quarterly, or Other? If Other, please provide explanation.
Monthly
5. Will a final report be required? Yes.
6. Is the Agreement, with amendments, longer than three years? If yes, why?
No

U. The following items should be attached to this CRF (as applicable)

List all items that should be attached to this CRF by entering "Yes" or "No".



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Contract Request Form
CEC-94 (Revised 04/2023)

Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes
2	Exhibit B, Budget Detail	Yes
3	DGS-GSPD-09-007, NCB Request	No
4	CEC 95, DVBE Exemption Request	No
5	Awardee CEQA Documentation	No
6	Resumes	Yes
7	CEC 105, Questionnaire for Identifying Conflicts	Yes

Approved By

Individuals who approve this form must enter their full name and approval date in the MS Word version.

Agreement Manager: Aniss Bahreinian

Approval Date: 5-17-2023

Office Manager: Quentin Gee

Approval Date: 5-17-23

Deputy Director: Aleecia Gutierrez

Approval Date: 5-17-23

Exhibit A

Scope of Work

TASK LIST

Task #	Task Name
1	Contract Management
2	Work Plan
3	Survey Review, Website, and Database Design Development
4	Survey Design
5	Focus Group
6	Survey Pre-Tests
7	Survey Recruitment, Implementation, Response Categories, and Data Correction
8	Analysis of Data Quality and Survey Results
9	Estimated LDV Choice Models

ACRONYMS/GLOSSARY

Specific acronyms and terms used throughout this scope of work are defined as follows:

Acronym	Definition
AV	Autonomous Vehicle
BEV	Battery Electric Vehicle
Caltrans	California Department of Transportation
CAM	Commission Agreement Manager
CARB	California Air Resources Board
CAV	Connected & Autonomous Vehicle
CEC	California Energy Commission or CEC
CVS	California Vehicle Survey
DMV	Department of Motor Vehicles
IEPR	Integrated Energy Policy Report
FCEV	Fuel Cell Electric Vehicle
LDV	Light Duty Vehicle
PEV	Plug-In Electric Vehicle
PHEV	Plug-In Hybrid Electric Vehicle
PFCV	Plug-In Fuel Cell Electric Vehicle
RP	Revealed Preference
SP	Stated Preference
VGI	Vehicle-Grid Integration
VMT	Vehicle Miles Traveled
ZEV	Zero Emission Vehicle

Background

The Energy Commission is directed by Public Resources Code (PRC) Section 25301 to prepare a forecast of transportation fuel demand to assess the need for resource additions, efficiency, and conservation with consideration for all aspects of energy industries and markets essential for the state economy, general welfare, public health and safety, energy diversity, and protection of the environment. PRC Code Section 25304 specifies that the Energy Commission transportation forecast shall include:

- Assessment of trends in transportation fuels, technologies, and infrastructure supply and demand and the outlook for wholesale and retail prices for petroleum and alternative transportation fuels under current market structures and expected market conditions.
- Forecasts of statewide and regional transportation energy demand, both annual and seasonal, and the factors leading to projected demand growth including, but not limited to, projected population growth, urban development, vehicle miles traveled, the type, class, and efficiency of personal vehicles and commercial fleets, and shifts in transportation modes.
- Evaluation of the sufficiency of transportation fuel supplies, technologies, and infrastructure to meet projected transportation demand growth.
- Evaluation of alternative transportation energy scenarios, in the context of least environmental and economic costs, to examine potential effects of alternative fuels usage, vehicle efficiency improvements, and shifts in transportation modes on public health and safety, the economy, resources, the environment, and energy security; and
- Examination of the success of introduction, prices, and availability of advanced transportation technologies, low- or zero-emission vehicles, and clean-burning transportation fuels, including their potential future contributions to air quality, energy security, and other public interest benefits.

The Energy Commission prepares the forecast and assessment of transportation energy demand, the outlook for retail fuel prices, and the analysis of shifts in fuel types, vehicle types, and other factors based on analysis of data collected from different sources. The Energy Commission uses the California Vehicle Survey (CVS) data to assess current vehicle ownership, the factors that current and future vehicle owners consider when purchasing a new vehicle and the likelihood that they would operate an alternative fuel vehicle or other advanced technology vehicle.

The survey integrates revealed (RP) and stated preferences (SP) survey instruments and as such is uniquely capable of assessment of consumer preferences for both vehicles and technologies currently in commercial markets as well as technologies that are expected to be commercialized at some point in future.

The 2023 California vehicle survey will build upon the previous surveys to update consumer preferences for different fuel types and vehicle technologies, and more directly assess consumer preferences for autonomous vehicles (AV) in vehicle choice. Additionally, it will augment the random sample to add targeted samples of current zero emission vehicle (ZEV) owners who are typically considered more likely to consider choosing autonomous vehicles.

General Requirements or Goals and Objectives

The goals of this Agreement are (a) to design and conduct both revealed preference (RP) and stated preference (SP) surveys for the household/residential LDV and the commercial LDV market segments, and (b) use the survey data to estimate an updated model of LDV choice for both residential and commercial market segments.

The survey of California LDV consumers must be a fair representation of the California household population and businesses. The Energy Commission uses LDV models that are designed around levels of vehicle ownership; three categories of vehicle holdings for households and five categories of fleet size for businesses. The survey must represent California households and California businesses in each of these categories.

Differences with prior surveys: The 2023 survey may include either additional SP instrument and/or additional attributes in the stated preferences survey instrument(s) to assess consumer preferences for autonomous vehicles. To further improve forecast accuracy, there is also a preference for a methodology to integrate both RP and SP based vehicle type choice equation(s) given the growing population of ZEV owners in California and the augmented sampling of ZEV owners. The survey questionnaire should also include questions on preferences for vehicle-grid-integration (VGI) technologies, particularly for PEV owners.

ADMINISTRATIVE TASKS

TASK 1: CONTRACT MANAGEMENT

The goal of this task is to clarify administrative elements of the agreement. The contractor shall manage a team capable and qualified to complete the tasks identified in the scope of work.

TASK 1.1 - KICKOFF MEETING

The goal of this task is to establish the lines of communication between the administrative and technical project teams of the contractor and the Energy Commission.

The Contractor shall:

- Attend a kick-off meeting with the Energy Commission Agreement Manager (CAM), Contracts Officer, the Accounting Office, and others as determined by the CAM. The Contractor shall include their Project Manager, Contract Administrator, and Accounting Officer, and others as agreed upon with the CAM. The meeting will be held via Webex and teleconference. Both the administrative and technical aspects of this contract will be discussed in the meeting.

TASK 1.2 – INVOICES

The goal of this task is to clarify the invoice approval process.

The Contractor shall:

- Prepare an invoice for all reimbursable expenses incurred performing work under this contract in compliance with the Terms and Conditions of the contract. These invoices must be accompanied with monthly progress reports for approval by the CAM. Official invoices must be submitted to the Energy Commission's Accounting Office.

TASK 1.3 - INCENTIVE PAYMENTS

The goal of this task is to pay monetary incentives to survey participants at multiple phases of the 2023 CVS: focus group, pre-test and the main survey.

The Contractor shall:

- Design and distribute monetary incentives at different stages of the survey, as described in Tasks 5-7.
- Maintain a log of monetary incentive payments, including the distribution and logging of payments. The log will include survey ID number, incentive(s) payment amount, and the date(s) the payment was issued. Funding for incentives is included in the associated deliverable payment. For example, Task 6 deliverable payments should include all pre-testing incentive payments.

Deliverables:

- Payment log.

TASK 1.4 - SUBCONTRACTORS

In the event Subcontractors are part of the Contractor's proposal, the Contractor shall:

- Manage and coordinate subcontractor activities. The Energy Commission will assign all work to the Contractor. The Contractor is responsible for the quality of all subcontractor work. If the Contractor decides to add new subcontractors, they shall 1) comply with the terms and conditions of the contract, and 2) notify the CAM who will follow the Energy Commission's process for adding or replacing subcontractors.

TASK 1.5 - MONTHLY PROGRESS REPORTS

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of the project.

The Contractor shall:

- Prepare monthly progress reports to summarize all contract activities conducted by the Contractor for the reporting period, including DVBE participation, an assessment of the ability to complete the contract within the current budget and any anticipated cost overruns.
- Each progress report is due to the CAM within 15 calendar days after the end of the reporting period.
- Create a dashboard portal to share survey completion rates with CAM, on demand, activated no later than the start of the pretest survey until the main survey execution comes to an end.

Deliverables:

- Monthly Progress Report
- Survey dashboard portal

TASK 1.6 - FINAL REPORT AND MEETING

The goal of this task is to prepare a comprehensive Final Report and to meet for a discussion and review of the project, and to discuss the closeout of this Agreement.

Task 1.6.1 – Final Report

The Final Report shall integrate different task reports into a single document and add the Contractor's assessment of actions and methods to improve future CVSs. The Contractor shall meet with the Energy Commission to discuss the draft Final Report prior to finalizing the Final Report. The meeting can be held via conference call, online, or in person. The CAM will review and approve the Final Report. The meeting and Final Report must be completed on or before the termination date of the contract.

The Final Report formatting requirements include illustrations and graphics to be sized to print on 8 ½" by 11" paper and readable if printed in black and white. The Contractor's Reports shall be prepared consistent with the Energy Commission Document Production protocols for Consultant Reports located:

[Formatting Reports and Writing Style for Consultants to the California Energy Commission](#)

The Final Report shall be a public document. If the Contractor has obtained confidential status from the Energy Commission and will be preparing a confidential version of the Final Report as well, the Contractor shall perform the following subtasks for both the public and confidential versions of the Final Report.

The Contractor shall:

- Prepare the draft Final Report for this contract.
- Submit an electronic draft Final Report to the CAM for review and comment.
- Schedule a meeting with the CAM approximately 15 calendar days after submitting the draft Final Report to the CAM. The purpose of the meeting is to discuss the draft Final Report. The CAM will provide written comments to the Contractor after the meeting has occurred.
- Prepare and submit a Final Report that addresses all of the CAM's comments on the draft Final Report. Any problematic recommended changes should be discussed with the CAM. Once final editing is completed, the CAM shall provide written approval to the Contractor.
- Submit one print ready copy, one electronic copy, and one bound copy of the Final Report with the final invoice.

Deliverables:

- Draft Final Report
- Final Report

Task 1.6.2 - Final Meeting

The goal of this task is to discuss closeout of this Agreement and review the project.

The Contractor shall:

- Meet with Energy Commission staff prior to the term end date of this Agreement. The meeting will be held via Web-Ex or teleconference. This meeting will be attended by the Contractor Project Manager and the CAM. The CAM will determine any additional appropriate meeting participants. The administrative and technical aspects of Agreement closeout will be discussed at the meeting.
- Present findings, conclusions, and recommended next steps (if any) for the Agreement, based on the information included in the Final Report.
- Prepare a written document of meeting agreements and unresolved activities.
- Prepare a schedule for completing the closeout activities for this Agreement, based on determinations made within the meeting.

Deliverables:

- Written documentation of meeting agreements
- Schedule for completing closeout activities

TASK 1.7- HANDLING CEC OR THIRD-PARTY CONFIDENTIAL INFORMATION AND PERSONAL INFORMATION**The Contractor shall:**

- Submit signed confidentiality agreement with the DMV if using the DMV data. The CAM will provide form of agreement at the kickoff meeting.
- Submit signed Information Security Program Plan Attestation that Contractor has an Information Security Program Plan (ISPP) that meets the minimum requirements as stated in SAM 5300 and any other applicable law. CAM will provide ISPP Attestation form.
- Submit signed Non-Disclosure Agreements (NDAs) from Contractor and Subcontractor employees prior to the sharing of confidential information with the employees. CAM will provide NDA form.
- Contractor shall ensure that all individuals employed by Contractor or a Subcontractor who will have access to confidential information take an annual security awareness training and submit the Employee Security Awareness Training Certificates.
- Submit verification that confidential information and personal information is destroyed at agreement end (or when work is completed).

Deliverables:

- Signed confidentiality agreement for using DMV data
- Signed non-disclosure agreement from Contractor and Subcontractor employees

- Signed Information Security Program Plan Attestation Form
- Employee Security Awareness Training Certificates
- Verification of destruction of confidential information and personal information

TECHNICAL TASKS

The CAM and CEC technical lead is responsible for the quality of data analysis, and the choice of models developed based on survey data as well as the ultimate recommendations developed under this agreement.

TASK 2: WORK PLAN

The goal of this task is to create a clear description of the work to be performed under each task and the associated methods. The Contractor shall finalize a project Work Plan based on the comments on the draft Work Plan submitted in the proposal. This Work Plan will describe the scope of the work and the methodologies to be used for completing the surveys and estimating the equations.

The Contractor shall:

- Meet with the CAM and others to discuss finalizing the work plan. This strategy meeting to discuss the Work Plan shall take place within ten (10) business days after the Kick-Off Meeting. This strategy meeting will be held or over the internet.
- Finalize a project Work Plan in consultation with the CAM. The Work Plan shall contain a thorough discussion of the work to be performed. It will document the Energy Commission's and the Contractor's expectations for each task and serve as a reference throughout the course of the project. The Work Plan shall address:
 - Sampling plan:
 - Sampling frame for both household and commercial markets.
 - Sampling design for both household and commercial markets.
 - Approach to oversampling of ZEV owners.
 - Survey sample stratification.
 - Survey Instruments
 - The 6 regions used for the 2023 survey (see Table A).
 - Approach to incentive design to maximize response rate and minimize non-response bias.
 - Discussion of non-response bias, as well as other bias risks associated with survey and sample design and approaches to dealing with them.
 - Approach to representation of non-English-speaking Californians.
 - Approach to increasing the accuracy of self-reported vehicle miles traveled (VMT), in the RP survey.
 - Survey mode(s) and tools (online panel, email campaign, mail-in, web, smart phone apps, etc.).
 - Scope of survey instruments, including consumer knowledge and awareness of alternative fuel vehicle technologies, autonomous vehicles, charging behavior and vehicle-grid connection.
 - Respondent recruitment procedures.
 - Approach to focus group sessions, and the integration of AVs and VGI in the focus group.
 - Approach to pre-test survey.

- Data collection protocols.
 - Quality control procedures.
 - Logistics of survey execution.
 - Cleansing and coding of collected survey data.
 - Database and software format of delivered survey data.
 - Approach to integrating AVs and/or TNC/transit in the residential vehicle quantity equation, if any.
 - Approach to integrating AVs in the vehicle type choice equation.
 - Approach to integrating RP and SP data in vehicle type choice equation.
 - Project schedule, detailing the tasks and their associated dates and costs.
- Update the Work Plan as necessary throughout the Agreement, in consultation with the CAM.

Deliverables:

- Final Work Plan
- Updated Work Plan as necessary

TASK 3: WEBSITE AND DATABASE DESIGN DEVELOPMENT

The goal of this task is to develop both website and database management plans that accommodate the data obtained from the Energy Commission survey instruments.

TASK 3.1 - SURVEY WEBSITE

The goal of this task is to create a website for the 2023 CVS respondents to complete the survey online. The final website design shall require approval by the CAM before its use in the 2023 CVS and must be accessible to the CAM for the duration of the contract.

The Contractor shall:

- Create and maintain a secure and confidential website for all surveys, in both English and other languages if applicable, to allow respondents to complete the surveys via the Internet.
- Develop a description of the survey website for CAM approval. The description shall include:
 - The website's appearance.
 - How the respondents will log into the website.
 - How the website will prevent multiple responses from the same individual.
 - How the respondents will complete the survey.
 - Whether or not both revealed and stated preferences will be completed in one website visit.
 - Whether or not click patterns will be monitored in pretest and/or main survey, and how it will be used.
 - How the data will be stored securely; and
 - How the website will be secure and remain confidential
- Develop a mock-up of survey website for CAM approval. The mock-up shall be a sketch of how each screen will look for the respondents.
- Provide the URL and screenshots of the survey website.

Deliverables:

- Description of survey website
- Mock-up of survey website
- URL and screenshots of the survey website

TASK 3.2 - SURVEY DATABASE DEVELOPMENT

The goal of this task is to create a database development plan to populate and store survey responses. If necessary, the Contractor shall contact the survey respondent(s) by telephone, after completion of the survey, to obtain additional information or to modify and correct the collected data. The Contractor will be responsible for entering the responses from all survey modes (mail, phone, and online as applicable), into the database.

The Contractor shall:

- Prepare a database development plan for storing 2023 CVS data.
- Create and maintain a database that stores all responses from the respondents.
- Populate and/or update the database on a weekly basis with survey responses from all survey modes, and monitor segment representation

Deliverables:

- Database development plan

TASK 4: SURVEY DESIGN

The goal of this task is to complete the survey and sampling designs, survey instruments and survey material for the 2023 CVS. The contractor shall review prior CVS surveys and survey instruments and models. Prior CVS instruments are available at [California Vehicle Survey](#) on the Energy Commission website's survey page. Under this task, the Contractor shall develop the 2023 CVS based on acceptable standards in the field, for this type of survey and model.

TASK 4.1 - HOUSEHOLD SURVEY

The goal of this task is to complete survey and sampling designs, survey instrument and survey material for the 2023 CVS household vehicle survey. The 2019 residential survey resulted in about 4000 completed household surveys, with over 600 ZEV owner surveys completed, which establish the minimum sample size for the 2023 household survey.

The Contractor shall:

- Review prior CVS household survey.
- Determine the sampling frame.
- Design the household vehicle survey sampling plan to ensure that:
 - The sample is a reliable representation of the state, incorporating key demographic variables of interest (e.g., location, household income, household size, number of workers in household, vehicle ownership, transit ridership per capita, and annual VMT).

- Distribution of respondents recruited for the 2023 CVS household vehicle survey shall be based on the population distribution by California counties. Sample distribution of household participants should be close to the regional distribution of households in California. The California Department of Finance's most current population estimates should be used for this survey.
- Design the household survey:
 - To use multiple modes for conducting the survey and may use different modes in different stages of the survey.
 - Suggest cost-effective methods to complete the survey while maintaining the designated quality and quantity of survey data.
- Design household survey instruments.
- Design incentive plan.
- Prepare the household survey material to include the revisions approved by CAM.
- Develop quality control procedures for key variables that have been used to develop nested multinomial logistic utility equations. Quality includes, but is not limited to, corrections for misinformation from survey respondents, outlying data, and any other data collection and data entry errors. Contractor is responsible for the quality of the 2023 CVS household vehicle survey data that it collects.
- Compose communications, subject to CAM review and approval, in consultation with CEC legal staff, to inform all survey respondents that the survey information they provide will be held confidential by the Contractor and the Energy Commission pursuant to the California Information Practices Act and the signed non-disclosure agreement with the Energy Commission.
- Translate survey instrument and survey material into Spanish, as directed by the CAM.
- Maintain each respondent's contact information in the event that further clarifications are needed from the respondents or survey responses appear to be internally inconsistent and/or unlikely to be correct.
- Include the survey designs, and survey instrument(s) for the 2023 CVS household vehicle survey in the Task 4 Report (See Task 4.4)

Deliverables:

- Household survey material
- Draft communications regarding confidentiality
- Final communications regarding confidentiality
- Survey translation into Spanish

TASK 4.2 - COMMERCIAL VEHICLE SURVEY

The goal of this task is to complete survey and sampling designs, survey instrument and survey material for the 2023 commercial vehicle survey. The 2019 commercial vehicle survey resulted in over 2000 completed SP surveys, with over 280 completed commercial ZEV owner surveys, which establish the minimum sample size for the 2023 commercial survey.

The Contractor shall:

- Review prior CVS commercial survey.
- Design the commercial fleet owner sample to ensure the following:

- The commercial fleet owner sample is representative of the fleet owner population and the industry distribution in California.
- Propose the sampling frame.
- Propose the survey mode(s).
- Design the commercial survey as follows:
 - To use multiple modes for conducting the survey and may use different modes in different stages of the survey.
 - Suggest cost effective methods to complete the survey while maintaining the designated quality and quantity of survey data.
- Design commercial vehicle survey instruments.
- Design commercial survey incentive plan.
- Develop quality control procedures for key variables that have been used to develop commercial multinomial logit models. Quality includes, but is not limited to, corrections for misinformation from survey respondents, outlying data, and any other data collection and data entry errors. The commercial fleet data required for estimation of the commercial vehicle choice models will be collected or generated by the Contractor, who must ensure their accuracy
- Compose communications to inform all survey respondents that the survey information they provide will be held confidential by the Contractor and the Energy Commission pursuant to the California Information Practices Act and the signed non-disclosure agreement with the Energy Commission.
- Prepare the commercial survey material to include the revisions approved by CAM.
- Translate survey material and instruments into Spanish, as directed by the CAM.
- Maintain each respondent's telephone number, address, and e-mail in the event that further clarifications are needed from the respondents or survey responses appear to be internally inconsistent and/or unlikely to be correct.
- Include the survey and sample designs, and survey instrument(s) for the 2023 CVS commercial vehicle survey in the Task 4 Report (See Task 4.4)

Deliverables:

- Commercial vehicle survey material
- Draft communications regarding confidentiality
- Final communications regarding confidentiality
- Survey translation into Spanish

Task 4.3 - ZEV OWNER SURVEY

The goal of this task is to design the California Zero-Emission Vehicle (ZEV) Owner Survey, targeting ZEV owners, encompassing plug-in hybrid electric vehicles (PHEVs), battery electric vehicles (BEVs), and fuel cell electric vehicles (FCEVs). The contractor shall target 700 completed ZEV owner surveys and distribute it across both commercial and residential sectors. These survey participants will complete the ZEV owner add-on RP, in addition to the main RP and SP survey instruments.

The contractor shall:

- Review prior CVS ZEV owner surveys in both residential and commercial segments.
- Discuss the ZEV owner sampling plan document and survey instruments.
- Design ZEV owner add-on survey instruments.

- Design ZEV owner incentive plan, if different from non-ZEV owner surveys.
- Develop additional survey material for ZEV owner surveys, if necessary, and as directed by CAM.
- Include the survey and sample designs, and add-on survey instrument(s) for the 2023 CVS ZEV owner survey in the Task 4 Report (See Task 4.4).

Deliverables:

- ZEV owner survey material
- Draft communications regarding confidentiality
- Final communications regarding confidentiality

TASK 4.4 - TASK 4 REPORT

The goal of this task is to prepare a Task 4 Report.

The Contractor shall:

- Prepare a draft Task 4 Report for the CAM for review. The Task 4 Report shall include the following content:
 - Survey and sampling designs and survey instruments for the 2023 CVS household vehicle survey.
 - Survey and sampling designs and survey instruments for the 2023 CVS commercial fleet survey.
 - Survey and sampling designs and survey instruments for the 2023 CVS ZEV owner survey.
 - Communications prepared for the survey participant recruitment and retrieval for all surveys.
- Incorporate all changes and respond to all comments by the CAM in a final Task 4 Report.

Deliverables:

- Draft Task 4 Report
- Final Task 4 Report

TASK 5: SURVEY FOCUS GROUPS

The goal of this task is to finalize the pretest survey design and survey instruments. The contractor shall design and execute focus group sessions to inform design and/or revisions of survey instrument and/or survey material for pretest. The 2017 CVS carried out 9 focus group sessions across California.

The Contractor shall:

- Design focus group sessions to achieve the following purposes:
 - Compile information to assist with the design of the pretest and final survey instruments (for example, ascertain consumers' knowledge, perception, awareness, and assessment of different vehicle technologies, autonomous vehicles, alternative fuels, and fuel infrastructure).
 - Gather data to assess household and commercial fleet managers' responses to policy measures designed to reduce growth in petroleum dependence.
 - Identify factors that influence consumer behavior in purchasing energy efficient vehicles or vehicles that do not operate on petroleum-based fuels.
 - Identify factors that influence PEV owners' behavior in vehicle-grid integration and connection.

- Identify factors that influence survey responses to public policy initiatives that reduce the demand for petroleum-based fuels.
- Prepare and submit draft updated material and develop questionnaires for the focus group sessions to the CAM.
- Based on comments from the CAM, prepare final material and questionnaires for the focus group sessions. These materials must be approved by the CAM before being used in the focus group sessions.
- Recruit respondents for focus group sessions, consistent with the Work Plan (Task 2):
 - Ensure that the focus group respondents are owners of a variety of light-duty vehicle technology and fuel types and are in a variety of income categories and education levels.
 - Each focus group session shall consist of 8-10 respondents.
 - Each focus group shall include at least one alternative fuel vehicle (EV/PHEV/Hydrogen FCV) owner.
- Conduct focus group sessions:
 - For the commercial fleet owners' survey, conduct up to four pre-survey focus group sessions, one in San Francisco, one in Sacramento, one in the Central Valley, and one in Los Angeles. For the household vehicle survey, conduct up to four pre-survey focus group sessions in the same cities listed for the commercial focus groups. One focus group session shall be conducted in Spanish and can be composed entirely of the household participants or a combination of household and commercial sector participants.
 - At least one focus group session shall be conducted for ZEV owners only and can be composed of a combination of household and commercial sector participants.
 - Focus group sessions should last approximately two hours.
 - Provide the facility for holding the focus group meeting(s).
 - Provide a facilitator for each focus group session who will:
 - Submit the survey to the respondents.
 - Answer respondent questions.
 - Videotape the sessions.
 - Perform other necessary tasks to complete the focus group, and
 - Sign a nondisclosure agreement with the Contractor.
 - Distribute materials to the survey respondents.
 - Attend the focus group session.
 - Notify the respondents of the time commitment and that the individual information they provide during the focus group session shall be held confidential by the Contractor and the Energy Commission pursuant to the California Information Practices Act and the non-disclosure agreement between the Contractor and the Energy Commission.
 - Provide the household and commercial respondents with an incentive payment to participate in the focus group sessions.
- Log incentive payments and submit incentive logs as described in Task 1.3.
- Log responses of the focus group participants in the database.
- Submit recording of all focus group sessions.
- Submit notes or transcripts of each session.

- Prepare a draft Task 5 Report for the CAM after conducting the focus group sessions. Based on comments from the CAM, prepare a final Task 5 Report.

The Task 5 Report shall include:

- Summary of all focus group activities; and
- Focus group session results, justifications, and recommendations for survey design and /or revision of the survey instrument and material for pretest.

Deliverables:

- Draft focus group materials and questionnaires
- Final focus group materials and questionnaires
- Complete and accurate log of incentive payments
- Video recordings of the focus group sessions
- Draft Task 5 Report
- Final Task 5 Report

TASK 6: SURVEY PRETESTS AND DESIGN OF FINAL SURVEY INSTRUMENTS

The goals of this task are to finalize survey material and instruments for all surveys. The contractor shall revise and execute the survey pre-test and use pretest survey data analysis to inform final survey instruments and survey procedures.

The Contractor shall:

- The updated survey pre-test will be used to evaluate the draft survey instruments regarding:
 - Clarity and effectiveness of the instructional cover message.
 - Time required by respondents to complete the questionnaire.
 - Respondent's reactions to the general appearance of the questionnaire (such as page layout, print size, etc.)
 - Ability of respondents to understand questions.
 - Reliability of each question to measure what is intended.
 - Identify issues regarding placement and wording of sensitive questions.
- Provide a written description of the survey pre-tests to the CAM.
- Provide a final description of recommended pre-tests, based on comments from the CAM.
- Propose sample size for both commercial and household pretest surveys, as well as the regional distribution.
- Conduct the survey pre-tests.
- Distribute incentive payment for participating in the survey pre-test.
- Log incentive payments and submit incentive logs as described in Task 1.3.
- Use the results of the pre-tests to revise the final survey instruments, material, and procedures.
- After conducting the pre-tests, prepare a draft Task 6 Report for the CAM.
- Based on comments from the CAM, prepare a final Task 6 Report.
- The survey instruments and material must be written at the sixth-grade comprehension level.

The Task 6 report shall include the following:

- Written description of the survey pre-tests.

- Results of the pre-test surveys.
- The final RP and SP survey instruments and other survey materials, for both the main residential and commercial surveys and the ZEV owner add-on surveys, as requested by the CAM.

Deliverables:

- Draft description of the survey pre-tests
- Final description of the survey pre-tests
- Log of incentive payments for the survey pre-tests
- Draft Task 6 Report
- Final Task 6 Report
- Final survey material and instruments for both the main surveys and the ZEV owner add-on surveys.

TASK 7: SURVEY RECRUITMENT, IMPLEMENTATION, RESPONSE CATEGORIES, AND DATA CORRECTION

The goal of this task is to execute the main survey, as well as the ZEV owner add-on surveys, compile and document the survey data, and analyze survey data quality during data collection. The Contractor shall update the draft recruitment letter from the 2019 CVS, recruit respondents, conduct the surveys, and categorize survey responses, including those responses that do not fit within predefined categories.

The survey data are critical to the Energy Commission's modeling and analysis activities. A high standard of data collection and survey response classification is expected from the Contractor.

The Contractor shall:

- Prepare a draft recruitment letter/communication to notify respondents that the individual information they provide, while taking part in the survey, shall be held confidential by the Energy Commission and the Contractor pursuant to the California Information Practices Act and the non-disclosure agreement between the Contractor and the Energy Commission.
- Prepare final respondent recruitment letters/communications for each survey, based on comments from the CAM.
- Contractor will work with the State to facilitate sending the recruitment letters/communications.
- Conduct the 2023 CVS. During the survey execution, the Contractor will do the following:
 - Compile respondent responses.
 - Categorize the response data. The survey data shall include each respondent's residence or cell phone number(s) and workplace telephone number(s), if they chose the option to respond.
 - Document and distribute all incentive payments to all survey participants.
 - Log incentive payments and submit a log of all incentive payments, as described in Task 1.3.

- Monitor survey representation of the targeted segments of the California population on a weekly basis and take appropriate actions to ensure representativeness of the survey.
- Prepare brief weekly survey implementation progress reports on recruitment and initial survey validity as the survey is in progress. These progress reports can be communicated via e-mail or posted on the Contractor's project management portal.
- The weekly survey implementation progress reports should include the following:
 - Discuss the current sample, describe the distribution of the parameters; where shortfalls exist (for example, not enough people sampled in a certain age range); and how to fix this shortfall, if necessary.
 - Discuss how any shortfall affects the survey results.
 - Verify the survey data to ensure that information regarding vehicle ownership, transactions, and usage are accurate and complete.
 - Provide Zip code plus 4 for each survey respondent.
 - Create and submit draft household and commercial fleet survey data files in electronic format, through survey dashboard/portal, or as otherwise agreed upon between the Contractor and the CAM.
 - Incorporate any revisions to the draft survey data files, as indicated by the CAM, deliver final survey data files in electronic format.
 - Correct data entry or survey data errors in the resulting data files, as necessary.
- Documentation of data coding procedures used to categorize survey responses.
- Prepare a draft Task 7 Report for the CAM.
- Prepare a final Task 7 Report, based on any revisions to the draft Task 7 Report as indicated by the CAM.

The Task 7 Report shall include the following:

- Survey material/communications, if revised from Task 6 final survey material, for the 2023 CVS for both the household and the commercial surveys, and the ZEV owner surveys.
- Limitations of survey and survey data.

Note that the Energy Commission shall have the sole authority to release survey material, anonymized survey results, and other materials produced from this survey to outside parties.

Deliverables:

- Draft Recruitment Letters for both the main surveys and the ZEV owner survey
- Final Recruitment Letters for both the main surveys and the ZEV owner survey
- Survey participation incentive payment log
- Weekly survey implementation progress reports
- Survey data files, including data dictionaries
- Draft Task 7 Report
- Final Task 7 Report

TASK 8: ANALYSIS OF DATA QUALITY AND SURVEY RESULTS

The goal of this task is to analyze and assure the quality of the survey data and to complete a descriptive analysis of survey results. Under this task, the Contractor shall analyze and document the quality and content of the main survey data, as well as the ZEV owner add-on survey, both during and after the data collection tasks. The reporting of response or completion rates shall conform to the standards established by the Council of American Survey Research Organizations.

The Contractor shall:

- During data collection, prepare detailed statistical summaries of participation rates and similar indicators of quality and consistency, including the following:
 - Misinterpretation of collected data.
 - Other errors in transporting the data into the electronic format.
- After the data collection is complete, prepare summary statistics for each sample, including the following:
 - Number of contacts, participation rates, respondents who did not answer all questions fully, number of outliers (if any), size of individual outliers (if any), and any biased survey respondents or surveyors.
 - Any abnormal variations in the data and any noticeable patterns that suggest the possibility of erroneous data that would need to be investigated further.
 - Completed responses in each cell of the sampling stratification and completed response rates by question, cross-tabulated.
 - Any other descriptors or question responses that deviates more than a reasonable rate from what would be expected.
- Prepare a draft Task 8 Report for review and comment on data quality and additional cross tabulation of data, if necessary.
- Based on any revisions to the draft Task 8 Report indicated by the CAM, prepare a final Task 8 Report.

The Task 8 Report shall include the following content:

- Documentation of the statistical analyses performed and a detailed summary of the results from these analyses.
- Methods used to check accuracy and make corrections to VMT estimates, by fuel type.
- Descriptive analysis of the data with cross tabulations of different data items, for household, commercial and ZEV owners, by key variables and as requested by the CAM.
- Compare sample distribution with actual data and discuss weights as necessary:
 - Provide the latest census counts from the United States Census Bureau of household size, income, and number of workers for each region in the state and develop weighting terms for household characteristics.
 - Provide commercial sector data, as available, for comparison.

Deliverables:

- Draft Task 8 Report
- Final Task 8 Report

TASK 9: LOGISTIC REGRESSION ANALYSIS

The goal of this task is to use the survey data and econometric methods to estimate and validate the utility functions that are integrated to create the personal and commercial vehicle ownership, transaction, and vehicle type choice models.

The Contractor shall:

- Use the 2023 CVS data from the previous tasks to develop nested multinomial logit choice models for the household and commercial LDV market segments. The nested multinomial logit models will be used to develop forecasts of light duty vehicle stock, fleet characteristics, annual VMT for household and commercial fleet vehicles, and fuel consumption.
- Estimate nested multinomial logit equations for vehicle ownership, transaction and choice utility functions based on the vehicle survey data for the households by ownership categories (1 vehicle, 2 vehicles, and 3+ vehicles) as well as vehicle choice, fleet size, and VMT models for the commercial sector by industry grouping. Utility functions estimating preferences for a specific class and fuel type of vehicles will use stated preferences survey data. Other equations will use revealed preferences survey data or a combination of stated and revealed preferences survey data. These equations must include the following:
 - Utility functions for the number of vehicles per household.
 - Household utility function for new and used vehicles.
 - Utility functions to reflect preferences for a specific vehicle class and fuel type, for one, two, and 3+ vehicle households.
 - Utility functions to reflect preferences for a specific vehicle class and fuel type, for commercial fleet owners, in different industry groups.
 - VMT equations for different household groups.
 - VMT equation for commercial fleet vehicles.

The explanatory variables of these equations include, but are not limited to:

- Household income.
- Household size.
- Business characteristics for commercial fleets.
- Number of workers in household.
- Transit ridership per household member.
- Fuel type and fuel cost.
- Fuel availability and refueling time.
- Vehicle maintenance cost.
- Vehicle class and vehicle price.
- Annual VMT estimates for both households and commercial fleet vehicles.
- Monetary and non-monetary Federal and state vehicle purchase incentives.
- Fuel efficiency, in miles per gallon.
- Range and Acceleration (time for vehicle to accelerate from 0 to 60 miles per hour).
- luxury vs standard characteristics.
- Levels of autonomous vehicle.
- Submit the data sets used in estimating the logistic equations, if they are different from the data files submitted in Task 8.
- Prepare a draft Task 9 Report for review and comments regarding the equations,

their parameter values and model validation by the CAM.

- Respond to CAM comments and suggestions and complete a final Task 9 Report.
- Submit a computer output for the equations from the Task 9 Report.

The Task 9 Report shall include:

- Estimation methods, statistical properties, and validity of the coefficients and the equations.
- Vehicle transaction and choice utility functions, and their nesting structure.
- Explicit or implied vehicle price, income, and fuel price elasticities.
- Detailed error analysis and verification of independent and identically distributed (IID) error results.
- Discussion of model validation.

Deliverables:

- Data files used in estimating the equations, if different from Task 8.
- Draft Task 9 Report.
- Final Task 9 Report.
- Computer output for the equations specified in Task 9 Report.

Schedule of Deliverables and Due Dates

<u>TASK</u>	<u>DELIVERABLE</u>	<u>DUE DATE</u>
1. CONTRACT MANAGEMENT		
1.1	Kick-Off Meeting	September 1, 2023
1.5	Monthly Progress Reports	The 15th of each month
1.6.2	Draft Final Report	December 15, 2024
	Final Report	December 30, 2024
1.7	Signed confidentiality agreement for using DMV data Signed non-disclosure agreement with the Energy Commission Signed ISPP Attestation Form Employee Security Awareness Training Certificates	November 15, 2023
1.7	Verification of destruction of confidential information and personal information.	Before March 25, 2025
2. WORK PLAN		
	Final Work Plan	November 15, 2023
3. SURVEY WEBSITE, AND DATABASE DESIGN		
	Draft Task 3 Report	November 15, 2023
	Final Task 3 Report	November 30, 2023
	Description and mock-up of survey website, URL, and screenshots of the survey website	November 30, 2023
	Database development plan	November 30, 2023
4. SURVEY DESIGN		
	Draft Task 4 Report	November 15, 2023
	Final Task 4 Report	November 30, 2023
5. FOCUS GROUPS		
	Draft Task 5 Report	January 15, 2024
	Final Task 5 Report	January 30, 2024
6. SURVEY PRE-TESTS		
	Draft description of the survey pretests	February 15, 2024
	Final description of the survey pretests	February 30, 2024
	Complete and accurate log of incentive payments	February 30, 2024
	Draft Task 6 Report	March 30, 2024
	Final Task 6 Report	April 15, 2024
	Final survey instruments and other material	April 30, 2024
7. SURVEY RECRUITMENT, IMPLEMENTATION, RESPONSE CATEGORIES AND DATA CORRECTION		
	Draft Recruitment Letters	June 5, 2024
	Final Recruitment Letters	June 15, 2024
	Survey participation incentive payment log	August 15, 2024
	Weekly survey implementation progress reports	Weekly from the beginning to the end of task 7

<u>TASK</u>	<u>DELIVERABLE</u>	<u>DUE DATE</u>
	Household & Commercial fleet survey data files	August 30, 2024
	Draft Task 7 Report	September 15, 2024
	Final Task 7 Report	September 30, 2024
8. ANALYSIS OF DATA QUALITY AND SURVEY RESULTS		
	Draft Task 8 Report	October 30, 2024
	Final Task 8 Report	November 15, 2024
9. LOGISTIC EQUATIONS		
	Draft Task 9 Report	December 30, 2024
	Final Task 9 Report	January 30, 2025

Table A: Survey Regions

<u>Region Number</u>	<u>Region Name</u>	<u>Counties in Region</u>
1	San Francisco	Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano, Sonoma, and San Francisco Counties
2	Los Angeles	Los Angeles, Orange, Imperial, Riverside, San Bernardino, and Ventura Counties
3	San Diego	San Diego County
4	Sacramento	El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba Counties
5	Central Valley	Fresno, Kern, Kings, Tulare, Madera, San Joaquin, Stanislaus, and Merced Counties
6	Rest of State	Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Monterey, Nevada, Plumas, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Shasta, Sierra, Siskiyou, Tehama, Trinity, and Tuolumne Counties