



COORDINATING RESEARCH COUNCIL, INC.

1 CONCOURSE PARKWAY SUITE 800
ATLANTA GA 30328
TEL: 678/795-0506
WWW.CRCAO.ORG

April 2nd, 2025

In reply, refer to:

CRC Project No. A-140

Dear Prospective Bidder:

The Coordinating Research Council (CRC) invites you to submit a written proposal to provide services for “PM Source Apportionment – Primary versus Secondary Mobile Emissions” (CRC Project No. A-140). A description of the project is presented in Exhibit A, “Statement of Work.”

Please indicate your intention to bid at [this link](#) on or before **April 17th, 2025** if you or your organization intends to submit a written proposal for this research program. CRC will answer technical questions regarding the Request for Proposal if they are submitted in writing at least one week before the proposal submission deadline here: [Q & A Link](#). CRC will then return written answers to all of the bidders, along with a copy of the original questions. Questions submitted within a week of the deadline may not be answered before the proposal submission deadline.

A CRC technical group composed of industry representatives will evaluate your proposal. CRC reserves the right to accept or reject any or all proposals.

The reporting requirements will be monthly progress reports and a summary technical report at the end of the contractual period. The reporting requirements are described in more detail in the attachment entitled “Reports” (Exhibit B).

The proposal must be submitted as two separate documents. The technical approach to the problem will be described in part one, and a cost breakdown that is priced by task will be described in part two. The cost proposal document should include all costs associated with conducting the proposed program. The technical proposal shall not be longer than 10 pages in length.

CRC expects to negotiate a cost-plus fixed fee or cost reimbursement contract for the research program.

Contract language for intellectual property and liability clauses is presented in Exhibit C and in Exhibit D, respectively.

Important selection factors to be taken into account are listed in Exhibit E. CRC evaluation procedures require the technical group to complete a thorough technical evaluation before considering costs. After developing a recommendation based on technical considerations, the costs are revealed and the recommendation is modified as needed.

Electronic copies of the technical and cost proposals should be submitted to:

Amber Leland
Coordinating Research Council
1 Concourse Parkway, Suite 800
Atlanta, GA, 30328

Phone: 678-795-0506
E-mail: aleland@crcao.org

The deadline for receipt of your proposal is **May 1st, 2025**

Yours truly,

Amber B. Leland
Deputy Director

EXHIBIT A

CRC Project Statement of Work

“PM Source Apportionment – Primary versus Secondary Mobile Emissions”

CRC Project Number: A-140

Background

At the 2024 CRC Mobile Source Air Toxics Workshop, a theme emanating from a number of presentations centered on non-exhaust PM_{2.5} emissions (i.e. brake and tire wear). Examples:

- Non-exhaust PM_{2.5} emissions are equally as important as exhaust PM_{2.5}.
- In a recent study it was found near the I-5 freeway in Anaheim that PM_{2.5} emissions from tire wear exceed those from exhaust by a large margin (x10) – further penetration of the heavier electric vehicles will likely accelerate this trend.
- Non-exhaust emissions are growing as major contributors to near-roadway PM_{2.5} and disproportionately impact socially marginalized populations living near roadways.
- The remaining non-exhaust particles, especially those from brake and tire wear (BTW) have higher toxicity and health threats.
- Brake-wear PM, which is currently the largest source of primary PM from on-road vehicles, is predicted to increase over time.
- BEVs may increase tire wear emissions by 10-25% due to increased weight and torque.

Objective

Conduct a source apportionment modeling study focused on one aspect of the diverse emissions sources that make up PM_{2.5}, mobile sources, and look at the breakdown of secondary PM_{2.5} (driven by exhaust NO_x) vs. primary PM_{2.5} (exhaust PM, tire wear, brake wear, road dust).

Scope of Work

At a minimum, the proposed scope of work should include:

- It is the intent of this project to use EPA’s latest publicly available modeling platform such as 2022v1 or 2022v2 if available.
- If required based on the base year inventory, running MOVES for defining emissions by process before running a photochemical model for source apportionment.
- With respect to regional and source categories in the source apportionment modeling, the proposal should include the maximum total number of categories that can be selected with the proposed budget. Potential regions of interest include Los Angeles, San Diego, San Francisco, Sacramento, Las Vegas, Phoenix, Denver, Dallas, Houston, Chicago, Milwaukee, Detroit, Atlanta, Washington DC, Baltimore, Philadelphia, New York.
- Source apportionment analysis is expected for both base and a selected future year, with a clear justification for the selection of the future year. The selected future year should align with an available year from the EPA’s latest publicly available modeling platform such as the 2022v1 of if available, 2022v2 platform. Additionally, detailed assumptions regarding EV adoption projections must be provided, including how they contribute to the emission inventory of the selected future year.

- How the project will track the secondary and primary NO_x and PM_{2.5} and report out the relative PM_{2.5} impact from each regional and source group/category. Potentially also further analyze the data to identify potential discrepancies between local communities within each region.
- The source apportionment modeling should include the relevant contribution metrics related to both the annual and 24-hour PM_{2.5} NAAQS.

Schedule

CRC expects that this effort should be performed over a 12-month period following contract execution. However, the contractor will propose an appropriate timeline for completing the study, including milestones for study deliverables. CRC requests that the cost of each task be separately presented.

Deliverables

- A kick-off meeting/call between CRC and the contractor to discuss project scope and align expectations.
- Periodic communication (monthly) between CRC and the contractor to discuss preliminary results and identify any information gaps before finalizing findings and starting the final report.
- Monthly and other intermediate reports/presentation decks upon completion of each milestone task.
- A final report, the draft of which will be reviewed by CRC before final release. The contractor is also encouraged to produce a peer-reviewed publication summarizing the main findings.

EXHIBIT B

REPORTS

MONTHLY TECHNICAL PROGRESS REPORTS

The contractor shall submit a monthly technical progress report covering work accomplished during each calendar month of the contract performance. An electronic Microsoft® Word compatible file (<1 MB) of the monthly technical progress report shall be distributed by the contractor within ten (10) calendar days after the end of each reporting period. The report shall contain a description of overall progress, plus a separate description for each task or other logical segment of work on which effort was expended during the reporting period.

FINAL REPORT

The contractor shall submit to or distribute for CRC an electronic (Microsoft Word) copy transmittable via email) of a rough draft of a final report within thirty (30) days after completion of the technical effort specified in the contract. The report shall document, in detail, the test program and all of the work performed under the contract. The report shall include tables, graphs, diagrams, curves, sketches, photographs and drawings in sufficient detail to comprehensively explain the test program and results achieved under the contract. The report shall be complete in itself and contain no reference, directly or indirectly, to the monthly report(s).

The draft report must have appropriate editorial review corrections made by the contractor prior to submission to CRC to avoid obvious formatting, grammar, and spelling errors. The report should be written in a formal technical style employing a format that best communicates the work conducted, results observed, and conclusions derived. Standard practice typically calls for a CRC Title Page, Disclaimer Statement, Foreword/Preface, Table of Contents, List of Figures, List of Tables, List of Acronyms and Abbreviations, Executive Summary, Background, Approach (including a full description of all experimental materials and methods), Results, Conclusions, List of References, and Appendices as appropriate for the scope of the study. Reports submitted to CRC shall be written with a degree of skill and care customarily required by professionals engaged in the same trade and /or profession.

Within thirty (30) days after receipt of the approved draft copy of the final report, the contractor shall make the requested changes and deliver to CRC ten (10) hardcopies including a reproducible master copy of the final report. The final report shall also be submitted as electronic copies in a pdf and Microsoft Word file format. The final report may be prepared using the contractor's standard format, acknowledging author and sponsors. An outside CRC cover page will be provided by CRC. The electronic copy will be made available for posting on the CRC website.

EXHIBIT C

INTELLECTUAL PROPERTY RIGHTS

Title to all inventions, improvements, and data, hereinafter, collectively referred to as (“Inventions”), whether or not patentable, resulting from the performance of work under this Agreement shall be assigned to CRC. Contractor X shall promptly disclose to CRC any Invention which is made or conceived by Contractor X, its employees, agents, or representatives, either alone or jointly with others, during the term of this agreement, which result from the performance of work under this agreement, or are a result of confidential information provided to Contractor X by CRC or its Participants. Contractor X agrees to assign to CRC the entire right, title, and interest in and to any and all such Inventions, and to execute and cause its employees or representatives to execute such documents as may be required to file applications and to obtain patents covering such Inventions in CRC’s name or in the name of CRC’s Participants or nominees. At CRC’s expense, Contractor X shall provide reasonable assistance to CRC or its designee in obtaining patents on such Inventions.

To the extent that a CRC member makes available any of its intellectual property (including but not limited to patents, patent applications, copyrighted material, trade secrets, or trademarks) to Contractor X, Contractor X shall have only a limited license to such intellectual property for the sole purpose of performing work pursuant to this Agreement and shall have no other right or license, express or implied, or by estoppel. To the extent a CRC member contributes materials, tangible items, or information for use in the project, Contractor X acknowledges that it obtains only the right to use the materials, items, or information supplied for the purposes of performing the work provided for in this Agreement, and obtains no rights to copy, distribute, disclose, make, use, sell or offer to sell such materials or items outside of the performance of this Agreement.

EXHIBIT D

LIABILITY

It is agreed and understood that _____ is acting as an independent contractor in the performance of any and all work hereunder and, as such, has control over the performance of such work. _____ agrees to indemnify and defend CRC from and against any and all liabilities, claims, and expenses incident thereto (including, for example, reasonable attorneys' fees) which CRC may hereafter incur, become responsible for or pay out as a result of death or bodily injury to any person or destruction or damage to any property, caused, in whole or in part, by _____'s performance of, or failure to perform, the work hereunder or any other act of omission in connection therewith.

EXHIBIT E

PROPOSAL EVALUATION CRITERIA

- 1) Merits of proposed technical approach.
- 2) Previous performance on related research studies.
- 3) Personnel available for proposed study – related experience.
- 4) Timeliness of study completion.
- 5) Cost.