

## HEI RFA 21-1: Quantifying Real-World Impacts of Non-Tailpipe Particulate Matter Emissions Q&A Summary

This file includes answers to questions asked at the webinar held on October 19, 2021, and some other questions that HEI received through other means. If you don't find an answer to your question here, you can consult our frequently asked questions page at <https://www.healtheffects.org/faqs> or email Dr. Allison Patton at [apatton@healtheffects.org](mailto:apatton@healtheffects.org) for more information.

### 1 ABOUT HEI

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<b>Where can I learn about HEI's funding priorities?</b>	Current funding priorities are listed in open requests for applications at <a href="https://www.healtheffects.org/research/funding">www.healtheffects.org/research/funding</a> . HEI's priorities more generally are described in our 5-year Strategic Plan, available at <a href="https://www.healtheffects.org/about/strategic-plan">https://www.healtheffects.org/about/strategic-plan</a> .
<b>Will research results be delivered to the automotive industry (e.g., to make new type of tires), or kept as academic findings?</b>	All HEI-funded research is freely available on our website at <a href="https://www.healtheffects.org/publications">https://www.healtheffects.org/publications</a> . Funded investigators are encouraged to publish their work in academic journals, and we also inform HEI's sponsors of the results of the funded studies.
<b>Are members of the Research Committee HEI employees?</b>	No. The Research Committee is an external advisory committee to HEI comprised of experts in research areas related to air pollution and health. For information on HEI's research and review processes, please see <a href="https://www.healtheffects.org/research/research-and-review-processes">https://www.healtheffects.org/research/research-and-review-processes</a> .
<b>Is the webinar going to be available later for download?</b>	The webinar was recorded for internal purposes only, to ensure accuracy of this list of questions and answers. The full presentation slides and this Q&A summary are being posted to HEI's website to provide equal information for all applicants. For the most complete information, please read the RFA and associated application instructions.

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### 2 ELIGIBILITY AND STUDY TEAMS

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<b>Are international applicants outside of North America eligible for this application?</b>	Yes. International applicants are welcome to apply as long as they meet the principal investigator requirements and are at an eligible institution.
<b>Will bilateral teams or teams with multiple institutions or sites receive priority?</b>	In reviewing proposals, we consider the strength of the team as a whole. There need to be people in all key roles to complete the work, so multidisciplinary teams are a strength.
<b>Will participants of the November 2020 HEI workshop be given priority for funding?</b>	No, participants of the November 2020 workshop will not be given priority and were not involved in the development of the RFA. All applicants are encouraged to review workshop materials: <a href="https://www.healtheffects.org/meeting/virtual-workshop-non-tailpipe-particulate-matter-emissions-and-exposure">https://www.healtheffects.org/meeting/virtual-workshop-non-tailpipe-particulate-matter-emissions-and-exposure</a> .

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<b>Will junior investigators be given priority for funding?</b>	In reviewing applications, we will look only at whether the principal investigator has the qualifications to successfully oversee the study and not the level of seniority. Junior investigators in roles equivalent to Assistant Professor and within 7 years of having received their PhD may also be interested to watch for upcoming calls related to the Walter A. Rosenblith New Investigator Award.
<b>Can a given entity be in more than one proposal?</b>	Generally, if you have more than one idea, we encourage you to prepare one application for the idea you think is better. You may collaborate on multiple applications; if you are involved with more than one proposal, it would be better to be on the study team than to lead. We do not make recommendations regarding specific research ideas.
<b>Do you have a recommendation on a leading research or university that we could partner with?</b>	We cannot recommend specific collaborations and suggest that you contact individual researchers whose work you like.

### 3 BUDGET AND TIMELINE

<b>What budget areas can the contract support (e.g., salary, equipment, travel...)?</b>	These are all allowable budget categories. Full budgets are not required with preliminary applications. Please see forms F-4 and F-5 of the full application package for information on the allowable budget categories.
<b>Does it have to be a 3-year study?</b>	RFA 21-1 is open to studies of 2 to 3 years in duration.
<b>Is there a suggested high limit for costs associated with instruments/fieldwork during evaluation of budget as reasonable?</b>	There are no guidelines regarding the portion of the budget to allocate for each budget category. In general, the budget needs to include enough funding for each aspect of the proposed study so that the Research Committee can be confident that the work will get done. Applicants should use their best judgment to allocate the budget across all aspects of the study. If new equipment is to be purchased, applicants should demonstrate in the proposal that the study team has the expertise necessary to operate the new equipment.
<b>What type of grant does HEI issue?</b>	HEI issues cost-reimbursement contracts (not grants) and has other differences from RFAs released by federal agencies. Please review HEI's process before applying: <a href="https://www.healtheffects.org/research/investigators/commitments">https://www.healtheffects.org/research/investigators/commitments</a> .
<b>Will you have a quota for how many full applications are invited?</b>	There is no quota for how many full applications are invited. However, HEI expects to fund up to 3 studies from this RFA, so will most likely invite up to 10 full applications.
<b>Can you share example research topics and proposal outlines?</b>	Possible research topics are discussed as research needs in the RFA. We do not have example proposals or outlines. Please use the preliminary application form when submitting your proposal.

## 4 SCOPE OF THE RFA

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**Can you provide an overview of how you consider “locations with similar air pollution to North America”? Can a proposal focus on India?**

Under “Geographic location,” the RFA defines areas of interest as “Studies in North America, Europe, and other areas where air pollution sources, mixtures, and ambient concentrations are comparable to those in North America.” Another area outside of North America could be relevant if a novel method could be developed and tested and then applied elsewhere. It would be important for the applicant to make the argument why the study is relevant to the North American situation. In the Indian context, the fleet conditions are very different from those in North America, so you would need to make a good case that the conditions that make India different won’t harm the proposed study’s applicability to the North American context.

**Can you provide examples of exposure indicators or pollutants for non-tailpipe?**

Potential pollutants are discussed on page 4 of the RFA. Proposals should focus on pollutants as specific to non-tailpipe particulate matter as possible. Previous studies have used specific metals (e.g., Fe, Zn) or organic components, but the exact pollutants are not predefined by HEI as long as they can be justified by the applicants. We expect to see interesting ideas and expansions on what people have done in the past to differentiate non-tailpipe emissions from other sources. Note that few pollutants are specific only to the non-tailpipe sources, so that's something that needs to be considered in thinking about potential new indicators that you'd want to validate.

**There was a focus on PM<sub>2.5</sub> during the presentation. Is there a priority on particle mass rather than particle number? What about PM<sub>10</sub>?**

Multiple pollutants are required for an application to be considered responsive. At a minimum, proposals should include one or more pollutants that can be used to specifically identify non-tailpipe emissions and PM<sub>2.5</sub> mass. Inclusion of other pollutants that help to answer the research questions is encouraged as applicable. Please see the Pollutants section of the RFA for more detail.

**Would a proposal that focuses on health effects and does not have site sampling be viewed negatively?**

Studies on health effects are welcome, as long as there is a very strong exposure component that meets the objective of being able to disentangle the non-tailpipe emissions from other sources. It is not required that you have a health study as part of this application process.

**Can the study focus on measurements and exposure levels but not directly link them to health effects?**

Yes. Relevance to future health research is an important consideration that should be discussed in the proposal, but this RFA does not require a direct link to health effects in the research.

<p><b>What types of results do you expect? See examples below:</b></p> <ul style="list-style-type: none"> <li>• <b>Average emissions factors of the vehicle fleet or separated by vehicle category?</b></li> <li>• <b>All the non-exhaust processes or one in particular?</b></li> <li>• <b>Electric vehicles?</b></li> <li>• <b>Modeling and characterization of non-tailpipe emissions?</b></li> </ul>	<p>We are interested in applications that provide any or all of these types of results. There are some very challenging questions that we pose in this RFA. Probably not all can be answered within the stated time and budget constraints, so the more focused and relevant your question can be across that spectrum, the better. We are looking for a good answerable research question, a good study design, and direct relevance to the objectives and key study design features outlined in the RFA.</p>
<p><b>Do you prefer a specific statistical, simulation, or measurement method?</b></p> <p><b>You mentioned a desire to identify less expensive methods that can be scaled to support follow-up epidemiological studies. What is the balance between this priority versus studies that elucidate underlying processes?</b></p>	<p>The funding call allows for any methods that would effectively address one or more objectives of the RFA.</p> <p>HEI is looking to fund a comprehensive research program that includes both of these study types, so we're looking for applications in both areas. The Research Committee will invite applications to cover as much breadth as possible.</p>
<p><b>The non-tailpipe emissions may look very different near predominantly heavy-duty traffic versus light duty (say near port terminals versus urban surface streets). Is a proposal expected to maximize variation or focus on one and address it well?</b></p>	<p>Variation is often part of the design, so shouldn't be ignored if it could help address the question at hand.</p>
<p><b>Should winter conditions (e.g., salt) be considered?</b></p>	<p>Winter conditions and separating road salt from other sources are an added challenge in certain climates and should be considered if they have implications for the study design and disentangling of sources.</p>
<p><b>Is lifecycle assessment relevant for certain technologies or vehicle types?</b></p>	<p>Lifecycle assessment is not required, but if it's something that helps motivate and frame your research question, it would be good to discuss in the proposal.</p>
<p><b>Does HEI maintain a list of ongoing non-tailpipe studies for potential leverage and avoiding overlap?</b></p>	<p>We do not maintain such a list. However, the background section of the RFA includes references to some ongoing studies.</p>