

**1. Are topics related to the COVID-19 pandemic response and recovery appropriate for CIVIC?**

David Corman: Yes. We consider that Covid-19 has introduced many new research challenges that deal with both the resilience and mobility tracks. I'll turn it over to David Alexander in a moment to expand on the DHS side of this, but we are looking to treat COVID as a sub-track within each of the two major tracks. We see it as very important, we see it as, frankly, an area that will have a huge impact as we go forward over the next year and beyond.

**2. Can you talk about the pressing research and technology needs in your respective domains as they relate to the COVID-19 response and recovery? Particularly on a 6-18 month timeframe consistent with the CIVIC timeline?**

David Alexander: DHS definitely is supportive of, and encourages, the consideration of ideas around addressing community resilience challenges pertaining to COVID-19, particularly because we see this energy between how communities may look to address their COVID challenges with strengthening the community's ability to address other natural disaster challenges. DHS S&T has been producing a document which is available for public access on the DHS website called the Master Questions List for COVID-19 that identifies a series of questions and topics that we have been receiving from key partners and interagency collaborators related to the virus from a variety of perspectives and angles from better understanding the virology of the pandemic to understanding some of the implications to disaster management, response, and mitigation. So just a couple of ideas to consider as we move forward with the challenge from a DHS lens would be to look at COVID-19 and resilience to it particularly around the ability for your solutions and proposals to support the co-occurrence of disasters and compound events, particularly your ability to strengthen your infrastructure in supporting early detection and monitoring at the edge. An example may be "how can your water treatment system monitor and detect early presence of the pathogen so that you can communicate early and start to ramp up protective measures". You may also consider how you may leverage other assets within your community to provide ability to support self-cleaning for personal protective equipment. We do know that the virus is very susceptible to sunlight and ultraviolet light, so there are some opportunities to leverage assets within your community, particularly key businesses that could support some type of self-cleaning capabilities or kiosks across your area. A third is addressing areas where we have

conflicting disaster guidance. How are you improving your resilience planning, your warning, alerting, and messaging, as well as your operations in addressing or modifying your conduct or disaster when the disaster may involve conflicting guidance. An example would be that the pandemic for COVID-19 requires social distancing or adherence to social distancing guidelines from governors, but at the same time if we have a tornado, hurricane, or earthquake or other mass sheltering disaster, you are now asking people to congregate at the same time as you've issued social distancing orders. So those are some areas and ideas for folks to consider that give you a little bit more context to some of the challenges that DHS is encountering across its enterprise with our state and local partners as well as our agency partners that would have synergy between not just addressing the COVID pandemic but improving your overall resilience to other natural disasters as well.

Mark Smith: Sure - unfortunately the COVID crisis does play into the Mobility track. The whole goal behind the Mobility track is finding affordable, innovative mobility options that can help connect residents to work, to healthcare, to amenities, and that's something where most agencies and people have more questions than answers. Once we do begin to open the economy back up, how are people going to commute? Are people going to be comfortable with public transportation again? For those of us in the suburban DC area, for example, are we going to be comfortable on a bus, or the metro, or an Uber or Lyft? Or will we be more comfortable driving our own car, which can open up a lot of other problems around congestion, emissions, etc. Or does ride sharing become a more popular option? So again, we don't have the answers yet, but we're trying to look at the tools and resources that we have at our national labs where we have some of the most powerful supercomputers in the world, so there is the opportunity for us to do some modeling that can help cities as they look at what the impacts of some of these alternate transportation methods might be. Again, looking at the scenario where people aren't comfortable on public transportation and start driving their cars, what would that mean? So the Mobility track lends itself towards looking for out of the box ideas that not only address innovative mobility options for moving people around to work, to home, to healthcare, to movies, but also consider the COVID-19 cloud hanging over us. We don't have the answers yet, but hopefully through this challenge we can see some innovative ideas and we look forward to those.

- 3. Can a private sector company (who already manages other NSF awards) and has PhD researchers on staff apply as the PI with a**

**community group as the co-PI? Or do we need a university involved?**

David Corman: The solicitation really indicates that you can be either a 2 year, 4 year academic institution, or you can be a nonprofit or research center. The challenge is that, for one, we couldn't have a blanket acceptance of private sector partners leading projects, partly because the program is going to be on a very fast track in the first stage in particular. Many private sector partners do not have an existing NSF award, so if we were to select them, they would have to be qualified by our financial division, which often takes several months of processing, and that would really impede the progress of the project as we go into bootcamp. Our idea is that we want all the awards to be staged together so that you can really start the program with a group of cohorts. So the challenge is that we believe you should really look for an existing university partner, and it becomes up to you and your partner how the financials work in the stage 1 competition and how that will break forward in stage 2 if you are selected as one of the teams in stage 2.

**4. Is it okay for someone from a government agency, program, or FFRDC to be a partner on proposals. And, could they receive funds?**

David Corman: My colleagues from DHS and DOE may also weigh in here. From NSF's perspective, national labs, FFRDCs, or government agencies, excepting DHS and DOE, could be partners on a proposal. And when we say partners, we mean that they shouldn't be the lead organization that is the submitter of the proposal. They can receive funds, because assignment of funds is up to the awardee institution. So FFRDCs, government labs, government agencies in general can partner, except for our co-sponsors DOE and DHS.

Mark Smith: You put it perfectly. The DOE national labs can participate as subs, not as primes, and they are probably used to that because that's how we run our vehicle technology office funding opportunities. We allow the national labs to participate as a sub awardee, not as primes, and that is true in this case as well.

**5. How can civic partners and other collaborators receive funding in both stages of the Civic Innovation Challenge?**

David Corman: The simple answer to that question is that you become a sub-awardee, essentially a sub-contractor, were this a

regular contract. The specific mechanics should be really the subject of discussion now between you and the lead organization that would be leading the proposal. What our desire would be is that, prior to proposal submission, you've started those kinds of discussions, and certainly between the time of proposal submittal and selection for bootcamp, part of that may be solidifying those financial agreements, solidifying the specifics, how you would be getting, funding, and collaborating. One other point I want to mention is that, what we want to see in this Stage 1 proposal, is evidence of a really solid partnership that you're creating with either civic partners or other collaborators. What we want is for you to come to us in stage 1, and though we understand there will be gaps in your team, we want to see that even if you haven't worked together previously, you look like a seamless, well-integrated team with a unified vision moving forward so that as we move from stage 1 to stage 2, all the issues we would like to see arise would not be project management and collaboration type questions. We're looking for strong and seamless integration.

**6. I've found a community partner but we haven't worked together before. What have you found helpful in navigating partnerships between civic and research entities?**

Kim Lucas: That's a great question, and I have personally found myself on both sides of that aisle. So as a social scientist working on applied questions that pertain to policy, that is something that I've definitely encountered from the researcher end, as a former city employee working with the research partners working on different projects I've found myself on that end as well. I give two pieces of advice. The first is logistic, so thinking about how you set up a fairly frequent means of communication, and at this point in time I recognize that might not be as easy. But finding a way to regularly do check ins and make sure everyone is on the same page and has gotten to know each other. So even if it's just setting aside 30 minutes on a weekly basis, and even if you don't use that full time every time, being able to commit to that builds trust among team members even when working remotely. One of the ways we can build that trust is to set aside and produce that space and place for focus on one specific project, and for everyone to show up even if we don't know what's on the agenda yet. The second thing I would raise, in terms of what we can do to foster stronger partnerships is to really lay out there what everyone's goals are. Everyone will have different goals and will be wanting different things out of this, and the faster and earlier everyone can openly and honestly put out those

goals, the faster everyone can integrate together and be able to reach multiple goals in the same project or set of projects.

**7. Are PIs required to be employees or affiliates of the awardee university or non-profit organization?**

David Corman: The short answer is yes. I first refer to some of the previous questions as well as the solicitation. Look at the specific eligibility section.

**8. Is there preference towards teams with "Results from Prior NSF Support"?**

David Corman: It's an interesting question because the answer to that is "No", with a caveat. First, we want to see from your response great vision, ideas, and collaboration with your civic partners. We want to see excellent impact that you expect to come. All NSF proposals require a sub-section called "results from prior NSF research", and the point there is, if you don't have results from prior research, that's fine, you may not have recent NSF projects that are relevant. What we want you to do is to convince us that you have a great vision and the capability of executing that vision. And to some degree, if you have those results from prior NSF research, that provides one level of evidence of your team's capability to do what you are expressing in your proposal. In the absence of that, give us the evidence and ideas that you can successfully execute the project ideas that you have.

**9. Who will be on the panels and how does the merit review process work? What kind of considerations will be taken by review panels in assessing the proposals?**

David Corman: Great question. We're just starting to formulate our panel strategy. All NSF proposals are reviewed on the basis of intellectual merit and broader impact. There is quite often solicitation specific criteria. For virtually all solicitations, NSF uses a peer review panel system. So we usually have 3 or 4 or more reviews of the proposal from a set of peers, and within the context of the Civic Innovation Challenge, our vision is to create panels that reflect the interdisciplinary character of the solicitation itself. So our expectation is that we will be reaching out, not just to academic people, but also to people within communities who are civic departments in cities or towns, Chiefs of Innovation, representatives from large and small sized towns, or potentially nonprofits. What we want to do is make sure that the ideas both have an intellectual merit side, so a research

component, because we look for an element of discovery, but we also look for a research horizon that will be relatively short as specified in the solicitation. So we aren't looking for intellectual merit in research ideas that are 20 or 30 years out, we aren't looking for things like subatomic particles, but we're looking for ideas that have discovery, that aren't simply "let me deploy this existing capability in this system", if there are deployment challenges because you're taking an idea and moving it from one environment to an entirely new environment, that can bring in research challenges. So tell us the elements of research, discovery, and innovation, as well as the societal impact of that research within the community. Who will care if you and your team succeed? Will your community really care? Will it have an impact on quality of life for people within your community? Again, it shouldn't be 20 years, it's a 1 year/2 year research horizon. We hope to have panels that look like the kinds of people submitting proposals, and they will be evaluating them within the lens of the Civic Innovation Challenge, in the areas of intellectual merit and broader impact. One last thing to think about, and this is something I tell all my proposers in Smart and Connected Communities or Cyber Fiscal Programs, think about, if you were on the panel, what questions you would be asking that focus on intellectual merit and broader impacts, discovery, and community impact.

- 10. For the Resilience to Natural Disasters track, are projects that seek to promote economic resilience and/or housing stability amidst natural disasters within the scope?**

David Alexander: Short answer is yes. We would consider that a valid research area. The track is intended to be broad because we understand that the challenges one community faces may be different than the challenges another community faces and we wanted to ensure that there was adequate capacity and opportunity for communities and submitters to be creative in addressing their core challenges in the most effective way. So yes, from our perspective, that would be a valid research area.

- 11. What are examples of outcomes expected from Stage 1? For example, should teams have collected any initial data sets on issues/problems, or should teams have conducted any pilots? Or are outcomes strictly planning related?**

David Corman: Those are all potential outcomes of Stage 1. So your team might have collected some initial data, or identified some new research challenges through working more intensely with your civic partner, you might have actually conducted some

pilot research, but you don't have to have done that. In part what we want to see out of Stage 1 is really great vision, a demonstrated capability and perspective that your team really understands the challenges that you will be working with your civic partners on, and real team cohesion that you've got an integrated team, working together, and a great plan for moving forward in Stage 2

- 12. Can my proposal be a deployment of an existing technology? Here's an example that came through: we are considering applying an existing/old concept (e.g., traffic signal coordination/management) in a non-traditional way. Research would be focused on evaluating effectiveness rather than developing new technology. Would you encourage this type of project, or discourage it?**

David Corman: There is a discovery question there: "Can I apply this idea with a new spin?". The answer is yes, you can put together a proposal or planning grant around it, but what you need to think about is, how you would stage that proposal together and ask yourself if what you're proposing will come across as new and innovative, or if it will come across as deployment. A lot is in the story telling, which is your responsibility as you put together that proposal.

- 13. For the Stage 1 proposals, are you looking for a description of Research Questions and Activities that will be conducted specifically in the 4 month planning grant period, or that also carry over to the Stage 2 period?**

David Corman: We want you to think about research questions that really carry over to stage 2. What we want to see in your stage 1 proposal is, in part, what activities you need to do in the next months to prepare yourself to be able to answer or start to answer some of those questions. Some of those may be that you need to express to us if your team has gaps or deficiencies in an area that you'd use part of the planning grant period to fill in. Is there some quick surveying of the community that you can accomplish in the planning grant period that might inform the research that you would propose in Stage 2. We understand that research questions show vision, and we understand that research takes many twists and turns. But we expect that some ideas may pan out and some others may not, so tell us what you see as big risks in your Stage 1 proposal. What do you see as risks moving forward, and how might you mitigate those as you move forward?

- 14. If our proposal has both mobility and resilience aspects, will one be given any greater consideration? To which track should we apply?**

David Corman: My answer is, which track do you believe best expresses the major impacts of the project? In which track do you feel more confident that you have a better story and likelihood of moving forward?

David Alexander: I agree. You need to use your best judgement to see where your project best fits, But you should also communicate that there are benefits for your project in both tracks. Ultimately you need to choose one or the other.

Mark Smith: I agree with those comments as well. We have had some funding opportunities in the past that focus on the role of alternative fuels and the role of advanced vehicle technologies in natural disasters and we've seen examples of that going going back to superstorm Sandy where some of the only vehicles on the road before, during, and after the storm hit were some alternative fuel vehicles that were able to recharge at stations that had backup power. And those played a large role in helping to evacuate people. So certainly the resiliency with mobility is applicable, but it does have to have a focus on one area or the other.

- 15. What advice would you give for applicants meeting a relatively short application deadline - should we place the highest focus on proving the ability to have demonstrable results in 12 mos or on aligning partners and the scope and structure of the proposed initiative?**

David Corman: Those are questions you have to think for yourself. As I read the question, I'm not sure I exactly get it because in the Stage 1 proposal, we want you to tell us that you've got a great research vision which is executable if you are getting a Stage 2 award. So we want to see an idea, and we want to be convinced that through your partnership with your community, that this is an idea that could come to fruition in the 12 months. We also want to be able to see that you've created a community partnership, or that you've made many inroads to building that and that you have a small increment of additions needed to solidify your team. So convince us that you've got a great vision, partnership, and that your community is going to be driving the research challenges and that you'll work together with the community if you are awarded a Stage 2 grant.

16. **One of the things about which my city and I are concerned is the engagement with vulnerable communities aspect of this process. We would like to include community groups in the planning stage but if we do not get funding in phase 2, it feels like we are wasting their time which is an ethical problem. That makes phase 1 planning a little tricky. What do you expect and what have you seen in terms of being truly inclusive of vulnerable communities. Also in Phase 2 will we be able to pay our vulnerable communities for their time, effort and contributions?**

David Corman: Our expectation is that in Stage 2, you will be providing funds to your civic partners whether they are from a vulnerable community group or not. And our perspective is that being able to provide funds to them solidifies the integration of research. So we feel that it will be the responsibility of the Stage 2 proposal lead and we want to see commitment and in your proposal you might want to express to us your vision for funding those community partners in Stage 2. I believe there is some rather specific language in the solicitation that refers to the type of partnership we would like to see in Stage 2. And we resonate with the difficulty of being a partner if you aren't getting any funding to support the integration.

Kim Lucas: And to address the beginning part about feeling like you're wasting a community partner's time, I would ask them! I would ask the community group and lay it out there and say, if in Stage 1 or Stage 2 you aren't funded, is it worth their while to be a community partner? And beyond this project, would they still want to continue to work with you? Part of this project is to facilitate these kinds of partnerships that are long term and deeply rooted and integrated with one another.

17. **For the resilience track, can the project include both shocks (short term) and stresses (long term), or should it be focused on specific natural disaster events?**

David Alexander: The answer is yes. Communities need to use their best judgement for what is the best approach for addressing their resilience challenge. We are not putting limits, except that we are looking for projects in the 1-2 year horizon.

18. **For the case where an academic institution is the submitter, is it more appropriate for our Civic Partner rep to serve as a Sr. Personnel or Co-PI? Are they perceived to imply something different in terms of engagement or commitment to the project?**

David Corman: They can be their senior person or Co-PI what we'd like to see in Stage 2 is the civic partner be a Co-PI.

- 19. Will more weight be given to projects in community resilience focusing on COVID or those that are applicable to all disasters?**

David Corman: We look to add a COVID subtrack, so we expect to bundle those into the COVID subtrack.

- 20. Would longer term investments in green infrastructure dealing with flooding (e.g., stormwater management systems as in bioswales) fit? It may take longer than 12 months so see impact with respect to measurable resilience.**

David Corman: You have to make that story. You have to convince us and more importantly you have to convince the evaluation panel. So provide evidence, provide expectations.

- 21. Would a community college, with only two year programs mostly focused on vocational training, be an eligible partner with the PI?**

David Corman: Yes. And that can be an important element of your community partnership, especially in workforce development.

- 22. Do we need to have community partners committed (e.g. letter of support by partner in submission) by the time of proposal in order to be considered for selection?**

David Corman: If you have a partnership, demonstrate it. That's the best way to proceed.

- 23. Can we add new partners in Phase 2 if we get asked to move forward?**

David Corman: Yes.

- 24. Can a small non profit 501- C3 qualify as the lead and have partners in the private sector?**

David Corman: Yes.

- 25. Where can you find a sample letter of intent or form?**

David Corman: There is a sample letter if you google NSF PAPPG which defines a very generic letter of collaboration which says, if the proposal is awarded , I will do what the proposal says. What that does is it puts the burden inside that proposal

to really specifically lay out those activities that are being agreed to.

**26. Can we build our proposal on an existing NSF SCC grant?**

David Corman: Absolutely!

**27. Can you please explain the 'intellectual merit' concept and consideration further?**

David Corman: What is the strength of the intellectual contribution? Is there innovation? Is there discovery in the idea? Is there a credible plan to accomplish the activities that are defined to yield the project impact that the proposal describes?