



NATIONAL SCIENCE FOUNDATION
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ARLINGTON, VIRGINIA 22230

NSF 16-140

Dear Colleague Letter: Opportunities for Research in Smart & Connected Communities

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Dear Colleague:

The National Science Foundation's (NSF) Directorates for Computer and Information Science and Engineering (CISE), Education and Human Resources (EHR), Engineering (ENG), Geosciences (GEO), and Social, Behavioral and Economic Sciences (SBE) wish to notify the community of various opportunities to support, foster, and accelerate fundamental research and education that addresses challenges in enabling Smart & Connected Communities (S&CC). This DCL amplifies and extends NSF's broader efforts in [Smart & Connected Communities](#), and aligns with the [National Smart Cities Initiative](#) and the President's Council of Advisors on Science and Technology (PCAST) report on [Technology and the Future of Cities](#).

Since the White House announced the Smart Cities Initiative in September 2015, NSF has been working with diverse community stakeholders to formulate research directions and create new funding opportunities. In Fiscal Year (FY) 2016, NSF's investments have enabled pursuit of fundamental understanding and basic research in frameworks that: (a) integrate and operate on data from multiple sources at multiple temporal and spatial scales; (b) involve new sociotechnical systems that are interconnected and interdependent; and (c) develop and test new technologies for innovative applications and services to enable more livable, workable, and sustainable communities.

Looking forward, NSF envisions a multi-pronged strategy to build on its FY 2016 investments.

This strategy is intended to advance both disciplinary and multidisciplinary science and engineering foundations as well as build research capacity to improve understanding of local communities and advance discoveries and innovation that will ultimately enhance the quality of life within them. In particular, for FY 2017, NSF envisions a portfolio of funding opportunities and activities that include (but are not limited to):

- Developing integrative social and technological research foundations for S&CC through strong, multidisciplinary efforts that may span institutions, stakeholder groups, and application areas;
- Coupling research with community engagement to inform research directions and enable greater community impact;
- Supporting research through NSF's core and cross-cutting programs to enable and address solutions to current and future challenges;
- Piloting and evaluating novel solutions to local community challenges — with attention to privacy, security, and quality of life of individuals within communities;
- Efforts to understand population characteristics and factors that inhibit or advance participation in technology;
- Capacity-building activities to develop collaborations and partnerships through short-term planning

activities and longer-term research direction-setting within the research and stakeholder communities, and to engage students and learners of all ages in addressing challenges relevant to S&CC;

- Supporting and building international partnerships that leverage research strength and capacity in other parts of the world; and
- Workshops that bring together diverse stakeholders including academics, community members, Federal agency partners, and others to identify strategic gaps, synergistic opportunities, and avenues for effective transition of research to practice.

For more information about current and future funding opportunities in S&CC, please see the NSF S&CC website (<https://www.nsf.gov/scc>) or contact the following directorate S&CC points of contact:

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