Caltrans Division of Research, Innovation and System Information has set aside approximately $1.5 million to fund 1-year research projects to advance Caltrans’ Strategic Management Plan. All work funded through this grant is to be conducted through UCCONNECT. Hence, principal investigators from the five UC campuses within the UCCONNECT consortium, Berkeley, Irvine, Los Angeles, Riverside and Santa Barbara, along with PI’s from UCCONNECT’s affiliate campus, the California State Polytechnic University, Pomona, are invited to submit research proposals in response to this call.

Proposals should address one or more of the broad, interconnected goals described in Section 1 below. Proposals that address these goals with theoretical or experimental flavors would be equally welcomed, and may pertain to the movements of people, or goods, or both combined. Be aware, however, that UCCONNECT is inclined to develop a diverse research portfolio, and would therefore be hesitant to fund new research that duplicates or closely follows ongoing work already sponsored by the center. Summaries of those ongoing works are furnished under the research links at www.ucconnect.berkeley.edu. Potential PI’s are encouraged to review those links before preparing proposals.

Questions concerning the preparation or submission of proposals in response to this call can be sent by email to proposal_ucconnect@berkeley.edu.

1. Priority Research Goals

Proposals submitted in response to this call should be aligned with one or more of the 5 goals that constitute Caltrans’ Strategic Management Plan for 2015-2020; visit www.dot.ca.gov/perf/ and click on the link for that plan. The goals are described below. The descriptions include examples of aligned research thrusts. These are offered for illustrative purposes only.

Goal 1: Safety and Health

Research is sought to enhance the provision of safe transportation systems, to promote health through active transportation (e.g. bicycling and walking), and to reduce pollution in communities. Proposals to improve the safety of travelers by any mode(s) would be welcomed, as would proposals to address the...
safety of Caltrans workers, say at construction sites or work zones. Proposals may therefore be targeted to the planning, design, construction, maintenance or operation realms of transport systems. Research to advance Caltrans’ ongoing efforts to prepare and implement a Statewide Highway Safety Plan would be welcomed. The same would be true of proposals: to further the state’s Active Transportation Program to enhance public health by encouraging trips by non-motorized modes; or to advance the implementation of the 2013 Zero Emission Vehicle Action Plan from the Governor’s Office of Planning and Research.

Goal 2: Stewardship and Efficiency

Proposals are sought to enhance the management of California’s transportation-related assets. With the sun-setting of Proposition 1B, the state is shifting its focus away from capacity-building projects, and toward the maintenance and repair of aging infrastructure, particularly for roads. Innovative financing strategies in the face of diminishing gas-tax revenues are of interest, as are strategies for raising revenues, whether through toll roads or other devices. Also welcomed would be research to advance: the state’s nascent efforts to develop an Asset Management Plan to preserve the condition of its transport assets and enhance system performance; or its Integrated Transportation Strategic Plan to prioritize projects statewide.

Goal 3: Sustainability, Livability and Economy

Research is sought that can aid the state in making smarter, longer-lasting mobility decisions to improve the environment, support a vibrant economy and build communities, rather than promote sprawl. Proposals to better integrate components of the state’s multi-modal systems would be of interest, including those that advance California’s Freight Management Plan or Rail Plan, or that support the state’s Transportation Plan 2040. Also welcomed would be proposals to improve access to public and non-motorized transport options, or to enhance livability and local economies via innovative smart-growth measures or land-use policies. Research targeted at water and air quality or at climate change is sought, as are proposals to develop sustainability metrics for prioritizing projects.

Goal 4: System Performance

Proposals to develop more integrated transportation systems are sought, to provide greater reliability and accessibility to travelers. Research to integrate high-speed or intercity rail systems with other transport modes would be of interest, and proposals to address so-called last-mile challenges would be especially welcomed. Corridor-wide management continues to be a priority. Also sought are proposals dealing with innovative street designs, particularly in metropolitan areas and town centers, and to advance the state’s Complete Streets Implementation Action Plan 2.0. Of particular interest would be proposals that address how Caltrans might achieve better system integration in collaboration with its partner agencies.

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2 Principle investigators considering ideas in the realms of congestion pricing, especially VMT-based policies, or of managed lanes should review UCCONNECT research projects awarded in 2014-15 and 2015-16 (visit www.ucconnect.berkeley.edu/research) to avoid submitting duplicate proposals.
Goal 5: Organizational Excellence

Finally, proposals are sought to further Caltrans’ national leadership in delivering quality service through excellent employee performance, public communication, and accountability. Proposals to aid Caltrans in its focus on transport operations and infrastructure management would be welcomed. So too would research to enhance Caltrans’ organizational excellence, or to advance the expertise of its personnel, including but not limited to its supervisory personnel, to meet evolving challenges. Research on initiatives that promote creativity and innovation among Caltrans personnel would be of interest, as would research to improve Caltrans’ communication methods, or to enhance its practices in collaborating with other agencies.

2. Eligibility for Awards

To serve as a faculty lead in a proposal for this call, an applicant from one of the five UC campuses within our consortium, or from our consortium’s affiliate campus, Cal Poly, Pomona, must be approved by his or her campus to serve as a Principal Investigator (PI). The PI is ultimately responsible for the conduct of the project and for satisfying award requirements; see Sections 5 and 9 of this call. Proposals that entail collaborations across any of the five UC campuses and/or our affiliate campus are encouraged, as are proposals that pursue research that is multi-disciplinary in nature.

A researcher within the consortium who is not eligible for PI status may still be included in a proposal, with his or her salary covered in place of the PI's; see Section 6.3 for limitations on salary compensation through this grant. The same is true for a visiting scholar who is officially affiliated with a campus within the consortium. Though exceptions may be made for special circumstances that are fully explained in the proposal, researchers not officially associated with our consortium or affiliate are ordinarily not eligible for funding through this call.

2.1 Restrictions of the Number of Submissions

Eligible faculty may submit no more than one proposal as a PI, and one additional proposal as a co-PI, in response to this call. PI's who presently have ongoing or pending research funded through UCCONNECT or UCTC (the forbearer to our present center) are eligible for funding under the present call. However, a submitted proposal is expected to entail research work that is distinct from any of the PI's of co-PI's past or present UCCONNECT and UCTC Faculty Research Grants.

2.2 Separate Program for Dissertation Grants

A separate program has been established to financially assist doctoral candidates in completing their dissertations. Faculty should therefore not submit proposals to support dissertation work under the

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3 University of California campuses within the consortium are: Berkeley, Irvine, Los Angeles, Riverside and Santa Barbara.
present call, but can instead inform students of UCONNNECT’s ongoing competitions for dissertation grants.

3. Performance Period

Successful applicants receive 1-year grants. All projects are to begin May 1, 2016 and end April 30, 2017. No-cost time extensions beyond April 2017 will not be possible. Nor can a PI defer a project’s start date beyond May 2016.

4. Funding Levels

UCCONNNECT faculty grants are intended to seed new research directions and therefore offer only modest levels of financial support. Grants to individual faculty cannot exceed $120,000. The center will fund proposals of up to $175,000 for research that involves collaboration between two or more PI’s from a single campus. Awards as high as $200,000 may go to collaborative research efforts that involve two or more campuses within our consortium, and multi-campus proposals would be enthusiastically welcomed.

The expected maximums cited above include indirect cost (i.e. overhead) of 17.5%. Budgets submitted from our affiliate campus, Cal Poly, Pomona, must include an additional 17.5% indirect cost rate on the first $25K of budgeted direct costs. UCONNNECT may adjust the amounts budgeted to winning proposals if this is needed to meet the center’s own budgetary constraints.

4.1 Non-Resident Tuition

Funding for Non-Resident Student Tuition (NRT) is not to be included in a proposal submitted in response to this call. Instead, the intent to hire a non-resident student (and a commensurate request for NRT-funding) should be indicated in a separate cover letter to accompany the proposal. All NRT requests will be scrutinized, and separate awards for NRT support will be made as funds permit. NRT funds can only be awarded after a non-resident student researcher has been hired for a project. Funds awarded for NRT may not be used for any other purpose.

4.2 Domestic Travel

Certain travel costs can be budgeted into a proposal, but only for trips that bear directly on project performance (e.g. field trips to collect data, meetings with collaborators, etc.). Funds to attend conferences, such as the TRB Annual Meeting, are NOT available under this grant. Awards will be made for domestic travel only (i.e. travel funds are not available for trips outside the US). We do not anticipate that the allocation of travel funds will exceed $2,500 for any one project, though exceptions can be made if reasons specified in the proposal are compelling.
5. Project Deliverables

Project deliverables may to some degree vary with the nature of the proposed research. However, the deliverables from all projects are to include a report or working paper that describes research results. This document is to be submitted immediately upon completion of the research project. (The document’s title and scope are to be consistent with that of the funded proposal.) UCCONNECT staff will post these documents on the center’s website. Upon a PI’s request, a report or working paper can be augmented by any published journal articles that come later. A link would be provided from the initial report to any updated publication(s).

To ensure that the outcomes of UCCONNECT research reach wide audiences, PIs are further required to do at least one of the following within 1 year of project completion: (i) publish a shortened version of the report in ACCESS Magazine or similar professional publication; (ii) submit a 500- to 600-word, 2-page UCCONNECT Policy Brief; (iii) present the work in formal fashion to a meeting with Caltrans personnel or in a Caltrans-UTC webinar or similar on-line forum targeted to practitioners. Presentations at conferences or professional meeting (e.g. the TRB Annual Meeting) would NOT fulfill this requirement.

Very importantly, as findings from the research begin to take shape, the PI and other project participants are expected to work with Caltrans staff as needed to (i) determine which forms of deliverables make most sense in light of those findings; and (ii) refine and ready research results for professional use.

Along these same lines of thought, *PI's of funded proposals may be asked to deliver workshops on their ideas to staff at Caltrans and other transport agencies.* Workshops might be on the order of 2-hours in duration, and could be delivered: near the start of the research project so as to develop partnerships and refine project scope; and perhaps again at or near the completion of the work. The center will make additional funds available to cover any unexpected extra costs incurred by having to deliver workshops.

Other key reporting requirements and expectations that accompany each grant award are described in Section 9 of this call. Prospective PIs and co-PIs should consider carefully the information in that section. Failure of a PI to submit expected deliverables or to honor the conditions of Section 9 would be a serious consideration when evaluating the PI’s future proposals.

*Of special note:* UCCONNECT-funded research projects are expected to yield useful products. Hence a proposal’s expected deliverables will weigh heavily when making awards.

6. Proposal Contents

A proposal is to consist of three components, to be designated Components A, B and C. These are to be submitted electronically in separate documents. There are strict page limits associated with these components, as noted below. Proposals that exceed these page limits may be rejected without further review.
6.1 Proposal Component A

Component A of each proposal will be sent to external peer reviewers and is to consist of the following elements.

1. A title page to include: the PI’s name and institution (along with those of any co-PI); and an abstract that is not to exceed 200 words.

2. A description of the proposed research that is to include the following:
   
   • A Problem Statement to include background and description of the proposed work.
   
   • Discussion on the proposal’s relevance to one or more of the 5 priority research goals described in Section 1 of this call. The discussion should specify which of the priority goals are addressed in the proposal, and the manner in which the proposed work would advance that goal or goals.
   
   • Description of the Methodology to be used. *A degree of detail is very important in this regard.* Moreover, if the work is to include the collection of original data, the discussion should comment on (i) the likelihood of completing that element of the proposed work within the project’s 1-year time frame; and (ii) plans to make the data freely available to the user and research communities. UCONNECT advocates an open-access policy for data sharing. (Applicants seeking an exemption to this policy should clearly explain why in their proposals.) If data are to be procured from outside sources, indicate whether arrangements have been made with the data provider.
   
   • Task descriptions and estimated time schedules for each task
   
   • Expected Results and Products; see again the last paragraph of Section 5
   
   • Key References

Appendices may be added at the applicant’s discretion, but these would count as part of the (strictly-enforced) page limit for Component A.

As regards that page limit, all discussion pertaining to item 2 above is not to exceed 10 pages in total, double-spaced with minimum 11-point font and 1” margins. Page numbers are to be included at the bottom center of each page. (Applicants will note that the maximum page length for Component A of the proposal is therefore 11 pages: a 1-page cover sheet, plus a research description not to exceed 10 pages.)

6.2 Proposal Component B

Component B of each proposal is to consist of the following five elements.
1. A UCONNECT cover page, 1-page only. The template for this cover page is available at [http://ucconnect.berkeley.edu/research/ucconnect-2016-17-faculty-research-rfp](http://ucconnect.berkeley.edu/research/ucconnect-2016-17-faculty-research-rfp).

2. A staffing plan, not to exceed 1 page, describing the proposed role of each project participant, including student participants. Describe both the budgeted- and pro-bono time of all participants.

3. A summary, not to exceed 2 pages in total, of the PI’s and any co-PI’s accomplishments on past UCONNECT or UCTC research grants, if any. List all products supported by those earlier grants, including working papers, reports, journal publications or other articles, conference presentations, testimonies and public service. Also list any additional participation in past UCTC- or UCONNECT-sponsored activities, including student conferences or other meetings, committee assignments and grant reviews.

4. Brief statements identifying any research funding from, or pending proposals to, other agencies that are related to your present UCONNECT proposal. Funding from multiple sponsors is encouraged and reporting on these sources, if any, is a firm requirement.

5. A brief CV, not to exceed 2 pages, for each of the principal research participants.

6.3 Proposal Component C (Budget)

Component C is a 1-year budget for the project. Two spreadsheet templates, a UCONNECT general use budget, and a UCONNECT Budget for reaching contractual agreements with Caltrans, are available online at [http://ucconnect.berkeley.edu/research/ucconnect-2016-17-faculty-research-rfp](http://ucconnect.berkeley.edu/research/ucconnect-2016-17-faculty-research-rfp). Both budget templates are to be filled-out.

Your budget may include:

1. One summer-month of salary for each faculty PI and co-PI (if any). Non-tenured Assistant Professors may request up to two months of summer salary.
2. One student researcher for each PI and co-PI, each to be funded up to ½-time for the academic year and up to 100% for as many as 3 summer months.
3. Employee benefits.
4. Supplies and expenses (e.g. copying, shipping, computing expenses, etc.) not to exceed $4,000.
5. Domestic travel, as described in Section 4.2.
6. Indirect charges: budgets must reflect overhead rates of 17.5%. Budgets submitted from our affiliate campus, Cal Poly, Pomona, must include an additional 17.5% indirect cost rate on the first $25K of budgeted direct costs.

Recall that a budget in Component C is not to include costs of Non-Resident Tuition; see again Section 4.1 for instructions on requesting funds to cover NRT cost. Equipment totaling more than $5,000 is not allowed, nor can UCONNECT cover costs for administrative staff.
7. Submission Instructions

Applicants are to submit Components A, B, and C of the proposal as separate attachments to a single cover letter. There is to be four attachments in total: one attachment for Component A of the proposal; another for Component B; and the two budget templates for Component C are to be submitted as two separate attachments. Each attachment is to be in pdf format.

For ease of handling, we ask that applicants name their attached files using a convention like: Proposal_Component A [or B or C1 or C2]_PI Last and First Names; e.g. Proposal_Component B_Smith_John. The attachment to be labeled C1 should contain the budget template for general use and the attachment C2 should contain the template for reaching contractual agreements with Caltrans.

We ask that the cover letter include the names and contact information of suggested external reviewers for the proposal.

The cover letter and its four attachments are to be submitted by email to: proposal_ucconnect@berkeley.edu, no later than October 1, 2015 (11:59pm PST).

7.1 Submission Verification (IMPORTANT!)

It is the policy of UCONNECT to handle submitted proposals with all due diligence. Yet a small number of proposals have evidently become lost in previous submission processes. For this reason, UCONNECT will now adhere to the following practice.

UCCONNECT staff will confirm receipt of each proposal via email within 24 hours of its submission. (This verification will be sent to the email address used to submit the proposal documents.) Should email confirmation of a proposal’s receipt not arrive within 48 hours of its submission, it is incumbent on the PI (or her agent) to notify UCONNECT staff of this discrepancy. Said notification can be made via email to: proposal_ucconnect@berkeley.edu and cassidy@ce.berkeley.edu.

Should any proposal be lost in the submission process, discovery of that lost proposal must be made by October 9, 2015. Any lost proposal discovered after October 9 will not be reviewed and will not be eligible for funding under the present call. No exceptions will be made in this regard.

8. Review and Award Processes

Awards will be made on a competitive, peer-review basis. Component A of each proposal will undergo a confidential, single-blind external review by university researchers (not from the PI’s campus) and senior professionals, including Caltrans professionals, with expertise in the topic(s) addressed in the proposal. Reviewer comments will be provided to all applicants.

Again, we ask that the applicant suggest external reviewers for Component A of his or her proposal. Suggested names and contact information can be included as part of a cover letter to accompany the proposal.
Components B and C of each proposal will be reviewed by a panel composed of the UCCONNECT staff and Caltrans leadership.

The reviews of Components A-C will form the basis for a proposal’s selection for award. External reviews of Component A will typically carry the most weight, though a PI’s and any co-PI’s accomplishments on any previous UCCONNECT or UCTC grants, and participation in UTC activities (as described in Component B) will also be a consideration, as will the reasonableness of the proposal’s budget (Component C). Some proposals may be funded at reduced levels. Funding may be contingent upon: revising a proposal in response to reviewer comments; and/or refining a project’s scope of work in response to collaborative discussions with Caltrans leadership.

9. UCCONNECT Research Policies and Requirements

The PI of each awarded project is responsible for the following.

1. A brief report on progress and expenditures, to be submitted quarterly upon request of the Caltrans Task Manager. The reports will be made available on the center’s website.
2. Review and approval of research notes submitted by the Caltrans Task Manager.
3. Information on all students engaged in the project, whether their efforts are funded or not, to be submitted in response to periodic requests from the campus’ Associate Director or UCCONNECT staff at Berkeley. Student contributions are to be further acknowledged in any publications resulting from UCCONNECT funds, whether by co-authorship or by some other form of mention within the publication.
4. A working paper or report to be submitted immediately upon completion of the research project. The title and scope of this report should be in keeping with the topics and themes described in the original proposal for the work.
5. So that UCCONNECT outcomes might reach wide audiences, PI’s are required to submit at least one of the three additional deliverables described in Section 5 of this call within one year of the project’s termination date.
6. Also as previously noted in Section 5 of this call, PI’s may be required to prepare and deliver one or more workshops on their research, should the work be judged suitable for this.