Bi-Annual Program Progress Report
For
University of California Center on Economic Competitiveness in Transportation
Region 9 University Transportation Center

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Research and Innovative Technology Administration

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Table of Contents

1. Accomplishments
   a. What are the major goals of the program? ................................................................. 3
   b. What was accomplished under these goals? ............................................................... 4
   c. What opportunities for professional development has the program provided? ........ 10
   d. How have the results been disseminated? ................................................................. 11
   e. What do you plan to do during the next reporting period to accomplish the goals? 11

2. Products
   a. Publications, conference papers, and presentations .............................................. 12
   b. Journal Publications ................................................................................................. 13
   c. Books or other non-periodical, one-time publications ............................................ 13
   d. Other publications, conference papers and presentations ....................................... 13
   e. Website(s) or other internet site(s) ........................................................................ 13
   f. Technologies or techniques ...................................................................................... 14
   g. Interventions, patent applications, and/or licenses ................................................ 14
   h. Other products ......................................................................................................... 14

3. Participants and collaborating organizations
   a. Individuals involved ................................................................................................. 14
   b. Partners .................................................................................................................... 15
   c. Additional collaborators ............................................................................................ 16

4. Impact
   a. What is the impact on the development of the principle discipline(s) of the program? 16
   b. What is the impact on other disciplines? ................................................................ 16
   c. What is the impact on the development of transportation workforce development? 16
   d. What is the impact on physical, institutional, and information resource at the university or other institutions? ................................................................. 17
   e. What is the impact on technology transfer? ............................................................ 17
   f. What is the impact on society beyond science and technology? ............................. 17

5. Changes/Problems
   a. Changes in approach and reasons for change ......................................................... 17
   b. Actual or anticipated problems or delays and actions or plans to resolve them...... 17
   c. Changes that have a significant impact on expenditures ......................................... 17
   d. Significant changes in use or care of human subjects, vertebrate animals, and/or biohazards ................................................................. 17
   e. Change of primary performance site location from that originally proposed .......... 17
1. **Accomplishments**

a. **What are the major goals of the program?**

The mission of UCCONNECT is to serve as the new University Transportation Center for federal region 9. As part of that mission, UCCONNECT supports faculty within its consortium of five University of California campuses—Berkeley, Irvine, Los Angeles, Riverside, Santa Barbara—and its affiliate, California State Polytechnic University, Pomona to set research, education, and workforce development objectives that achieve two complementary goals. The two goals are: 1) to reduce congestion, improve highway operations and enhance freight productivity; and 2) to ensure that the next generation of transportation professionals are prepared to tackle the complex challenges confronting our region’s and country’s transportation networks.

In regard to research, faculty members within the UCCONNECT consortium and its Cal State University affiliate submit research proposals, which are peer reviewed and awarded funds on a competitive basis. Additionally, UCCONNECT sponsors a smaller funded research program to extend support to faculty at universities that are not part of the UCCONNECT consortium. Faculty from any university within federal region 9—Arizona, California Hawaii, Nevada, and Guam—are eligible for funding under this second program. Priority research topics are sought by the center. These typically address interdisciplinary, contemporary problems in surface transportation and are identified in consultation with faculty at the aforementioned institutions, as well as from stakeholders at the California Department of Transportation and other agencies within Region 9.

In regard to workforce development, UCCONNECT supports conferences, symposia and workshops. In particular, the center holds an annual conference that brings graduate and undergraduate students from throughout the region together with faculty and professionals. Participants share research findings and discuss the state of the art in professional practice, with the expressed goal of advancing the region’s top priorities in the realms of surface transport.

In regard to education, UCCONNECT builds upon the legacy of the degree and non-degree programs across its consortium. Our consortium collectively features university degree programs at the bachelors, masters and doctoral levels. UCCONNECT directs substantial financial support to the top graduate students throughout the consortium. The funds go to the creation of research positions, and student recipients of the awards pursue select studies under the direction of our affiliated faculty. Funds of this kind are also given in the form of dissertation grants, awarded on a competitive basis throughout the consortium, to support doctoral students as they complete their theses.

b. **What was accomplished under these goals?**

The center’s accomplishments during the reporting period were: (1) to issue a second Request for Proposals (RFP) to provide additional opportunities for the consortium members; (2) hosting a student conference at UC Santa Barbara; (3) awarding Ph.D. students throughout the consortium with dissertation grants to be used towards tuition or as stipends; and (4) meeting its aspirations in the realm of education as per various metrics to be cited momentarily.

*(1) Request for Proposals:* In the fall of 2014, the center issued its second RFP. Principal Investigators from the five UC campuses within the UCCONNECT consortium, along with PI’s from
UCCONNECT’s affiliate campus, were invited to submit research proposals in response. The RFP featured the following four high-priority research themes as identified by Caltrans personnel and representatives from the UCCONNECT consortium.

1. Responding to California Senate Bill 743 to Reduce GHG Emissions.
2. Toward Better Understanding Induced Travel Demand and Demand Elasticity.
4. Understanding the Impacts of “Main Street” Improvement.

Proposals that did not fall within the above four priority topics were welcomed by the RFP as well.

**Review Process:** Following a competitive peer-review of 23 proposals that were submitted in response to this RFP, 11 Research Grants were awarded for FY 2015-16. The following table lists the awarded proposals.

**Awarded Proposals:**

<table>
<thead>
<tr>
<th>NEWLY SELECTED PROJECTS (second RFP)</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Analyzing Spread of Influence in Social Networks for Transportation Applications (Pl: L. Abellera, Cal Poly, Pomona)</td>
<td>To begin in next reporting period</td>
</tr>
<tr>
<td>• From LOS to VMT, VNT and Beyond through Data Fusion: Application to Integrated Corridor Management (Pl: A. Bayen, UC Berkeley)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Public Transportation and Industrial Location Patterns in California (Pl: D. Chatman, UC Berkeley)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Bringing a Community Health Lens to Highway-to Main Street Conversion through the Integration of Top-Down Export Guidance and Bottom-up Community Engagement (Pl: B. Cole, UCLA)</td>
<td>To begin in next reporting period</td>
</tr>
<tr>
<td>• Combing California Household Travel Survey Data with Harvested Social Media Information to form Self-Validating Statewide Origin-Destination Travel Predication Method (Pl: K. Goulias, UC Santa Barbara)</td>
<td>To being in next reporting period</td>
</tr>
<tr>
<td>• What can Bike Lanes do? Performance Metrics for Proposed Bicycle Infrastructure (Pl: J. Walker, UC Berkeley)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Toward Accurate and Valid Estimates of Greenhouse Gas Reductions from Bikeway Projects (Pl: J. Matute, UCLA)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Potential Greenhouse Gas Emissions Reductions from Optimizing Urban Transit Networks (Pl: S. Madanat, UCLA)</td>
<td>To begin in next reporting period</td>
</tr>
<tr>
<td>• The Effectiveness of State and Local Incentives on Household Ownership of Alternative Fuel Vehicles—a SEM Analysis (Pl: J. Saphores, UC Irvine)</td>
<td>To begin in next reporting period</td>
</tr>
</tbody>
</table>
• Mobile Apps and Transportation: Exploring Data Metric Potential and User Response to Multi-modal Traveler Information (PI: S. Shaheen, UC Berkeley) | Launched

• Coordinating Transit Transfers in Real time (PI: C. Daganzo, UC Berkeley) | Launched

In addition, the table below lists the 22 Research Grants that were awarded following our center’s first RFP, including its two smaller-scale RFP to support research region-wide.

<table>
<thead>
<tr>
<th>ONGOING PROJECTS (First RFP)</th>
<th>STATUS</th>
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<tbody>
<tr>
<td><strong>PART I: Open to faculty within the consortium</strong></td>
<td></td>
</tr>
<tr>
<td>• OCICATS (Online Community Input Classification to Advance Transportation Services)—a GIS Based Decision-Support Tool (PI: L. Abellera, Cal Poly, Pomona)</td>
<td>To begin in the next reporting period</td>
</tr>
<tr>
<td>• Heightening Walking Above its Pedestrians Status: Walking and Travel Behavior in California (PI: E. Blumenberg, UCLA)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Experimental Studies for Traffic Incident Management (PI: D. Brownstone, UC Irvine)</td>
<td>To begin in the next reporting period</td>
</tr>
<tr>
<td>• Smartphone Information and Transportation Demand Modeling: An Analysis of Transportation Network Companies (PI: R. Church, UC Santa Barbara)</td>
<td>To begin in the next reporting period</td>
</tr>
<tr>
<td>• Pricing Urban Transportation Networks: Multi-modal Strategies Leveraging Big Data (PI: C. Daganzo, UC Berkeley)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Automated Assessment of Safety-Critical Dynamics in Multi-modal Transportation Systems (PI: O. Grembeck, UC Berkeley)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Modeling and Control of HOT Lanes (PI: R. Horowitz, UC Berkeley)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Promoting Peer-to-Peer Ridesharing Services as Transit Systems Feeders (PI: R. Jayakrishnan, UC Irvine)</td>
<td>To begin in the next reporting period</td>
</tr>
<tr>
<td>• Performance Analysis and Control Design for On-ramp Metering of Active Merging Bottlenecks (PI: W. Jin, UC Irvine)</td>
<td>To begin in the next reporting period</td>
</tr>
<tr>
<td>• Bicycle Crash Risk: How Does it Vary and Why? (PI: R. Liggett, UCLA)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Demand Forecasting and Activity-Based Mobility Modeling from Cellphone Data (PI: A. Pozdnukov, UC Berkeley)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Crowd-source Data to Activity Models: Humans Mobility Prediction for Real-time Ride-sharing (PI: R. Sengupta, UC Berkeley)</td>
<td>Launched</td>
</tr>
<tr>
<td>• Strategic Charging Infrastructure Deployment for Electric Vehicles (PI: M. Shen, UC Berkeley)</td>
<td>Launched</td>
</tr>
</tbody>
</table>
• Control Strategies for Corridor Management (PI: A. Skarbardonis, UC Berkeley) | Launched


• Impacts and Future of the California Fuel Tax Swap of 2010 (PI: M. Wachs, UCLA) | Launched

• From Trend Spotting to Trend Setting: Model the Impact of Major Technological and Infrastructural Changes in Travel Demand (PI: J. Walker, UC Berkeley) | Launched

• Developing an Agent-Based Online Adaptive Signal Control (ASC) Framework Using Connected Vehicle (CV) Technology (PI: G. Wu, UC Riverside) | Launched

• Exploring the Use of Spatial Data as Input to Traffic Control and Traffic Safety Analysis (PI: W. H. Lin, University of Arizona) | Launched

• Multimodal Arterial Performance Measurements Using Multi-Source ITS Data (PI: Y. Wu, University of Arizona) | Launched

**PART II: Open to faculty within region 9**

<table>
<thead>
<tr>
<th>STATUS</th>
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</thead>
<tbody>
<tr>
<td>Launched</td>
</tr>
</tbody>
</table>

• Exploring the use of spatial data as input to traffic control and traffic safety analysis (PI: Wei Hua Lin, University of Arizona) | Launched

• Multimodal arterial performance measurement using multisource ITS data (PI: Yao-Jan Wu, University of Arizona) | Launched

(2) 2015 UCCONNECT Student Conference: The first Student Conference sponsored by UCCONNECT was held during the weekend of February 27-28, 2015 on the campus of UC Santa Barbara. The event featured a well-rounded interactive program that facilitated lively discussion between students from various UC and Cal State campuses, as well as among faculty and government transportation officials.

Activities included presentations and a panel discussion on the topics of Pattern Recognition and Anomaly Detection in Modeling, and of Simulation of Sustainable Transportation. These events featured faculty from universities across the nation who addressed topics such as: the inference of activity-based models using advanced machine learning tools; the use of cyber search techniques to assess the locations of emergency services in the Los Angeles area; and the roles of cyber security viewed from control and game-theoretic perspectives.

The conference also included a talk by CUTC Student of the Year, Jack Reilly from UC Berkeley, who presented highlights from his award-winning doctoral dissertation.

Numerous other events punctuated the conference as well. Included here were: a Friday evening reception and welcome delivered by UCSB Professor Keith Clark; Saturday morning opening remarks given by Professor Kostas Goulas of UCSB and UCCONNECT Director Mike Cassidy; keynote presentations by both Coco Briseno, Chief of Caltrans Division of Research, Innovation and System...
Information, and Katie Benouar, Chief of Caltrans Division of Transportation Planning; a plenary panel discussion that featured the UCCONNECT Advisory Committee; and the Mel Webber Lecture that was delivered by Professor Hani Mahmassani of Northwestern University, who addressed the opportunities and challenges associated with the use of big data in transportation.

Yet without question the most noteworthy activities of the conference featured the student presentations of their research sponsored by UCCONNECT and its region 9 predecessor, UCTC. More than 100 such presentations were made over the course of the weekend, both as podium talks and as poster sessions. Fittingly, the conference ended with awards given to some of the more outstanding of these student presentations.

The Student Conference was also an opportunity to address important administrative matters. For example, the Friday evening of the conference entailed a meeting of the UCCONNECT Executive Committee. Present at the meeting were UCCONNECT Executive Committee members Brian Taylor, Daniel Chapman, Steve Ritchie, Kostas Goulias, Michael Cassidy, Juan Argote and Karen Frick. Professor Xudong Jia from affiliate California State University at Pomona was in attendance.

The Committee discussed news items across the consortium campuses—including faculty hires, and new initiatives; the 8 month Federal continuation of University Transportation Centers; improvements and updates on contract management; State and Federal reporting requirements and schedules; proposed schedule for the next RFPs for Faculty Research and Dissertation Grants. Juan Argote, of UC Berkeley, also presented a template for an online content management tool that could fully automate the review process for the upcoming Faculty Research and dissertation grants. The committee also discussed ongoing and new initiatives regarding Native American issues in transportation. The meeting concluded with an update from Brian Taylor on ACCESS Magazine and the selection of UC Riverside as the site of the next UCCONNECT Student conference.

Saturday, day two of the conference, started with a meeting of the UCCONNECT Advisory Board. Present at the meeting were UCCONNECT Advisory Committee members Katie Benouar (Caltrans), Coco Briseno (Caltrans), Tilly Chang (SFCTA), Lawrence Dahms (MTC), Xudong Jia (CPP), Wei Hua Lin (University of Arizona), Eric Shen (POLB). The aforementioned Executive Committee Members were also in attendance along with UCCONNECT staff from Berkeley.

Executive and Advisory Committee Members at the first UCCONNECT Student Conference
The meeting agenda consisted of a review of UCCONNECT research, education, and workforce development activities over the past year. The meeting attendees went on to discuss how UCCONNECT can better address its mission moving into the coming year. Other discussion topics included current research underway at other agencies, and the possibility to organize workshops and webinars as vehicles to present topics of greatest interest to the professional community. The meeting concluded with discussion of research topics for future RFPs and the possibility of establishing internships for students from the UCCONNECT consortium with industry.

(3) Dissertation Awards: UCCONNECT Dissertation Grants were awarded following an extensive peer-review process that included faculty across over the nation and around the world. The center received in total 22 very fine and well-reviewed applications, and made awards to 13 of these. Awardees received amounts ranging from $7,500 to $18,000, depending on the expected time left for completion of their Ph.D. studies, to assist them during the final stages of their dissertations. A brief list of the 13 awardees is given in the table below.

The following is a list of the awarded students and their dissertation topics:

<table>
<thead>
<tr>
<th>Dissertation Awards</th>
<th>STATUS</th>
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<tbody>
<tr>
<td>• Longer-term Impacts of the London Congestion Charge (Andrea Broaddus, UC Berkeley)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• Using Mobil Technology to Understand the Dynamics of Transit Rider Satisfaction and Cessation of Transit Use (Andre Carrel, UC Berkeley)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• On the Use of Network-wide Relations in Urban Networks (Jean Doig, UC Berkeley)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• Modeling Second-by-Second Traffic Emissions in a Mega-Region to Optimally Site Satellite Bus Terminals (Nathanael A. Isbell, UC Santa Barbara)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• Distance-dependent Congestion Pricing for DOWNTOWNS (Lewis Lehe, UC Berkeley)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• Peer-to-peer and Group collaborative Supply and Consumption in Transportation Systems (Roger Lloret, UC Irvine)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• The identification and Characterization of California’s Agave Potential for conversion to Transportation Fuels (May-Ling Lu, UC Riverside)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• Stalled on the Road to Adulthood? Assessing the nature of recent travel changes for young adults in America, 1995-2009 (Kelcie Ralph, UCLA)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• Proactive Vehicle Routing to Solve the Dynamic Bike sharing Rebalancing Problem with Potential Extension to Shared Station Vehicle Systems (Robert Regue, UC Irvine)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>• The Effect of the Urban Environment on Concentrations of Vehicle Emitted Pollutants (Nico Schulte, UC Riverside)</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
• A Framework for Analyzing Public-Private Partnerships for Road Transportation under Demand Uncertainty (Ke Wang, UC Irvine)  
   Ongoing

• Choice Set Aggregation and Consistent Standard Errors in BLP Models for Micro and Macro-level Data (Tim Wong, UC Irvine)  
   Ongoing

(4) Meeting its aspirations in the realm of education: During this reporting period, the center’s performance was assessed using three metrics. These were: 1) the number of sponsored graduate degrees and fellowships, 2) the number of sponsored registrants/presenters at TRB and UCCONNECT- supported conferences, short courses, outreach activities, and like events; and 3) number of graduate students supported by research awarded in response to RFPs.

University of California, Berkeley

UCCONNECT awarded funds to 6 graduate students in Berkeley’s Transportation Engineering Program and 12 in the Department of City and Regional Planning. These funds were key in recruiting top candidates to pursue graduate studies in Transportation related areas. Students who receive financial support are expected to collaborate with faculty members and complete a deliverable that can range in scope from a short report to a published paper on a transportation topic of their choice. The objective is to engage the student research activities. In addition, 1 undergraduate student at Berkeley also received funding from the center and UCCONNECT sponsored 25 students to attend the annual TRB meeting in Washington D.C. and reimbursed upwards of 115 graduate and undergraduate students from within the Consortium for their attendance and presentation at the annual student conference at UCSB.

University of California, Irvine

UC Irvine provided fellowship support to 12 masters and 15 Ph.D. students studying transportation in Irvine’s Department of Civil and Environmental Engineering.

University of California, Los Angeles

The funding for student fellowships enabled the UCLA Department of Urban Planning and Public Policy to recruit top candidates in the field of transportation for its Ph.D. and Master of Urban Planning Programs

University of California, Santa Barbara

UCCONNECT funds enabled UCSB to recruit 2 additional geography students. As an important aside, the Hispanic Association of Colleges and Universities named UCSB a Hispanic- Serving Institution. Twenty-seven percent of the student population at UCSB is Chicana/o and Latina/o, up from 11% in 1994. The campus is the first AAU member to receive HIS status.

University of California, Riverside

In October 2014, UCR executed a major outreach event for high school students, emphasizing research in the area of transportation. Science Technology Education Partnership (STEP) Conference hosted 340 high school students from five different high schools in California’s Inland Empire region. The targeted high schools have a strong science and math core with after school programs that help mentor students with hopes to inspire students to further their STEM education. The high school
students were able to experience hands-on demonstrations in laboratory settings. UCR executed eight different stations covering six different research areas, all with a focus on transportation.

**California State Polytechnic University, Pomona**
During this reporting period, Cal Poly Pomona established a set of tasks to achieve their goals and objectives. The tasks encouraged graduate and undergraduate students to consider transportation careers, introduced students to further educational opportunities in the University of California system, and brought underrepresented students to the transportation professions. Cal Poly invited a number of guest speakers to come to their campus and help them achieve their tasks. They also started a set of mini research projects that involve graduate and undergraduate students.

c. *What opportunities for professional development has the program provided?*
In addition to providing funds to directly support the Annual Student Conference in Santa Barbara, UC Berkeley provided administrative support and funds to assist student presenters from within the consortium with travel and lodging for said conference. UC Berkeley also paid for the registration for 100 student presenters and afforded an opportunity for first year students who were not presenting to attend by providing a stipend to assist with travel and lodging. In addition, UCCONNECT provided funds for students presenting at the Annual Meeting of the Transportation Research Board in Washington D.C.

The University of California, Irvine has launched a graduate student seminar. It provides an opportunity for graduate students to present their research and ideas in front of other graduate students. More information about the seminar can be found at [http://sites.uci.edu/itsgsa/seminar](http://sites.uci.edu/itsgsa/seminar).

In March 2015, UCR hosted a PEMS (Portable Emissions Measurement System) workshop for 150 people from over 50 different companies, agencies or institutions representing 10 countries from around the world. The presentations provided a comprehensive discussion on PEMS uses and lessons learned for international impacts, non-road implementation, ECM signal standardization, and integration with OBD legislation. There were also a few discussions on PEMS usages quantifying in-use real fuel economy. The panel discussions notes provided a great discussion on PEMS uses, future needs and the impact that it is having on our air quality.

In collaboration with the UC Berkeley Institute of Transportation Studies, UCCONNECT sponsored several speakers as part of the Berkeley ITS Seminar Series. This provides an excellent opportunity for students to directly interact with both professionals and academics at the top of the Transportation field.

On an annual basis, UCCONNECT designates an “Outstanding Graduate Student of the Year” through a program jointly sponsored by the U.S. Department of Transportation and the council of University Transportation Center (CUTC). The award includes (i) an invitation to a special ceremony hosted in Washington D.C. as part of the TRB Annual Meeting; (ii) $1,000 along with the registration, travel and lodging costs to attend the Annual Meeting; (iii) two complementary registrations to the CUTC Banquet; and (iv) a certificate from USDOT.
Sebastian Guerrero was selected as the UCCCONNECT-UCTC Student of Year because he embodies the ideal of a scholar who both enjoys theoretical work while demonstrating a passion for practical insights that can be used to address real-world problems. The review panel was particularly impressed with Sebastian’s global vision, stating that “his consideration of government regulation and pricing interventions of the trucking industry would seem to be a practical progression from the global goal to meaningful impact.”

d. How have the results been disseminated?
During this reporting period, results have been disseminated through graduate student seminars, student presentations at the TRB Annual meeting and the UCCCONNECT student conference. Results have also been disseminated through newsletter publications across the consortium. A summary of results from all of the aforementioned activities can be found on both the UCCCONNECT website and the respective websites of the consortium members. Finally, our center’s greatest means of disseminating our findings is through our award-winning ACCESS Magazine (http://www.accessmagazine.org).

e. What do you plan to do during the next reporting period to accomplish the goals?
During the next reporting period, UCCCONNECT will issue another RFP for Faculty Research and Dissertation Grants. The center will also work in concert with UCCCONNECT faculty and US DOT to develop a workshop on the future of transportation that will highlight alternative transportation methods that lend themselves to a zero-emissions goal. In addition, center staff will work closely with the host of the 2016 UCCCONNECT Student Conference, UC Riverside, to develop an agenda for the annual student conference to be held in February 2016. Moreover, the center will support efforts to host a Summer Research Program at Cal Poly Pomona (CPP).

The CPP summer program seeks to attract undergraduate students from Region 9, especially those from under-represented groups, with interest in transportation research. These students will directly collaborate with faculty members within our consortium in the completion of an independent study. The final goal of the program is to prepare Region 9 students in their transition from academia to professional practice and to incentivize students to choose transportation as their specialty field to pursue in graduate-level studies.
The CPP program will be open to both undergraduate and graduate students, but undergraduate students will be given priority. Each participating student will receive a $3000 scholarship from UCCONNECT. In addition, a certificate will be presented at the completion of the Summer Program during a final Symposium.

The students will be expected to prepare a report or manuscript for potential publication. All participating students will also be required to do a presentation and submit a report to the Program Director, Dr. Wen Cheng. To complete the program students will have to be at CPP’s campus during the first week of the program and for the final Symposium day.

In addition, center staff will monitor all ongoing projects. The selected faculty PIs will submit quarterly reports on their work, which will be made available through the center’s website.

2. Products
   a. Publications, conference papers, and presentations
      Products developed in Center-funded projects are described below.

1) “Analysis of Cost-effectiveness of Clean Trucks Program in southern California”, TRB paper number 15-6404, Tammie Kuo (MS/PhD Student, Jean Daniel Saphores (Faculty)- Collaboration with the Port of Los Angeles and the Port of Long Beach, Student funded by UCCONNECT fellowship during Fall 2014, winter 2015, and Spring 2015

2) “Estimating truck volume and weight distribution by body configuration using Weigh-in-motion data”, TRB paper number 15-1917, Kyung Hyun (PhD Candidate), Sarah Hernandez (Assistant Project Scientist), Andre Tok (Assistant Project Scientist), Stephen Ritchie (Faculty)- Sponsored by CARB, Student funded by UCCONNECT during Summer 2014 and Fall 2014

3) “Accounting for population exposure to pollutants in the toll design problem”, TRB paper number 15-5349, Daniel Rodriguez (PhD Candidate) and Stephen Ritchie (Faculty), Student funded by UCCONNECT during Spring 2014

4) “Integration of Weigh-in-motion and inductive signature data for truck body classification”, Sarah Hernandez (Assistant Project Scientist), Andre Tok (Assistant Project Scientist), Stephen Ritchie (Faculty)-Sponsored by CARB, Student funded by UCCONNECT during Summer 2014 and Fall 2014

5) “Motivating Students to Pursue Transportation Careers: Implementation of Service Learning Project on Transit”, TRB paper number 15-1378, Sarah V. Hernandez (Assistant Project Scientist) and Stephen G. Ritchie (Faculty)- Collaboration with the UC Irvine Institute of Transportation Engineers Student Chapter, National Parks Conservation Associated, and the National Park Service, Student funded by UCCONNECT during Summer 2014 and Fall 2014


b. Journal Publications:

1) Haoyu Chen; Weihua Gu; Michael Cassidy; Carlos Daganzo (2015), Optimal Transportation Service Atop Ring-Radial and Grid Street Networks: a Continuum Approximation Design Method and Comparisons. Selected for presentation at the 21st ISTT Symposium and for publication in transportation Research Part A.


c. Books or other non-periodical, one-time publications:


d. Other publications, conference papers and presentations:

Nothing to report.

e. Website(s) or other Internet Site(s):

The following websites are currently accessible online:

<table>
<thead>
<tr>
<th>Internet Site</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCCONNECT Center Website</td>
<td><a href="http://ucconnect.berkeley.edu">http://ucconnect.berkeley.edu</a></td>
</tr>
<tr>
<td>ACCESS Magazine Website</td>
<td><a href="http://www.accessmagazine.org">http://www.accessmagazine.org</a></td>
</tr>
</tbody>
</table>
In addition, UC Riverside is finishing a UCCONNECT centered website that will host information about the upcoming Annual Student Conference. Moreover, the UCCONNECT staff is currently exploring options to host an online portal to manage and automate the proposal submission and review process of both the Faculty Research and Dissertation Grants calls.

f. Technologies or techniques:
Nothing to report.

g. Interventions, patent applications, and/or licenses:
Nothing to report.

h. Other Products:
Nothing to report.

3. Participants and collaborating organization
   a. Individuals involved
      
      **Executive Committee**

      | Name                  | Position                                                                 |
      |-----------------------|--------------------------------------------------------------------------|
      | Michael Cassidy       | Director of UCCONNECT and Robert Horenjeff Professor of Engineering at UC Berkeley |
      | Juan Argote-Cabanero  | UCCONNECT Assistant Director                                             |
      | Karen T. Frick        | UCCONNECT Assistant Director and Assistant Adjunct Professor of City and regional Planning |
      | Mathew J. Barth       | Yeager Families Professor of Engineering at UC Riverside                 |
      | Daniel Chatman        | Associate Professor of City and Regional Planning at UC Berkeley         |
      | Kostas Goulias         | Professor of Geography at UC Santa Barbara                               |
      | Stephen Ritchie       | Professor of Civil and Environmental Engineering at UC Irvine            |
      | Brian Taylor          | Professor of Urban Planning and Director of ITS at UC Los Angeles        |

      **Advisory Committee**

      | Name                  | Position                                                                 |
      |-----------------------|--------------------------------------------------------------------------|
      | A. Ricardo Archilla   | Associate Professor of Civil and Environmental Engineering at the University of Hawaii |
      | Katie Benouar         | Division Chief of Transportation Planning                               |
      | Coco Briseno          | Division Chief of Research, Innovation, and System Information           |
      | Tilly Chang           | Executive Director of the San Francisco County Transportation Authority  |
b. Partners

**Caltrans**

UCCONNECT recognizes Caltrans as a vital partner in: furnishing funds to match federal dollars; helping to guide the research agenda; putting the findings into practice; and further disseminating our ideas by co-sponsoring and participating in workshops and webinars.

**Institute of Transportation Studies**

UCCONNECT is housed at UC Berkeley’s Institute of Transportation Studies (ITS). The Center enjoys institutional efficiencies by sharing ITS’ facilities and research infrastructure. The Center is enhanced by being part of the collection of other transport centers that are also housed at UC Berkeley’s ITS. Those other centers include:

1) **UC Berkeley PATH (Partners for Advance Transportation and Technology):** UCCONNECT objectives are enhanced by collaborating with PATH, which has a focus on the improvement of surface transport operations through the application of advance technologies
2) **CCIT (Center for Innovative Transportation):** UCCONNECT benefits from this center because its goals are to promote the deployment of emerging transport technologies in real settings.
3) **TSRC (Transportation Sustainability):** The Center benefits from TSRC’s focus on reducing the carbon footprint of transportation by managing policy and technology
4) **Technology Transfer:** UCCONNECT partners with Technology Transfer, which is well established as a prime source of professional training and expert assistance for the transport community throughout the region.

Consortium members have partnered with the following organizations, agencies, and programs:

- Port of Los Angeles
- Port of Long Beach
- California Air Resource Board (CARB)
- TRB Airport Cooperative Research Program (ACRP)
- National Parks Conservation Association (NPCA)
- Joshua Tree National Park Service
- UC Multi-campus Research Programs and Initiative (MRPI) for Sustainable Transport:
  - Technology, mobility, and infrastructure
- Korea Maritime Institute
- Korea Railroad Research Institute
- Hanyang University (Korea)
- Polytechnic University of Catalonia (Spain)
- Institute of Transportation Engineers (ITE) Student Chapters on various campuses
c. Additional collaborators
Nothing to report.

4. Impact
a. What is the impact on the development of the principal discipline(s) of the program?
The staff at the consortium headquarters has met on repeated occasions with key decision makers at Caltrans to discuss ongoing UCCONNECT research and to determine lines of work that could benefit practitioners and have an impact in the future of transportation.

We also received a request from the UC Office of the President. Their goal was to highlight UCCONNECT sponsored research performed by students within the consortium in an advocacy event in Sacramento to obtain further educational support from the state of California. This is an example in which UCCONNECT’s work has been featured as means to strengthen the state’s educational program.

b. What is the impact on other disciplines?
All of UCCONNECT’s activities in education, research, and workforce development involve a wide variety of disciplines. The wide number of multidisciplinary research projects sponsored by UCCONNECT is a clear example of this. Even though all projects fall within the scope of improving economic competitiveness in surface transportation, the faculty and researchers involved in these projects are affiliated with a multitude of departments (e.g. Civil Engineering, City and Regional Planning, Mechanical Engineering, Electrical Engineering and Computer Science, Economics, Public Policy, Public Health, etc.). In addition, the dissertation grants issued by the center include students whose thesis committees are covered by faculty with various backgrounds. All of this sponsored work is expected to have an impact in disciplines that go beyond those traditionally linked to the field of Transportation.

c. What is the impact on the development of transportation workforce development?
UCCONNECT has provided numerous opportunities to students within the consortium that relate to workforce development. For example, each one of our affiliated campuses organizes series in which the students have the opportunity to meet and greet speakers at seminars. This is an excellent chance for students to directly interact with key figures at the top of their respective fields and it provides them with an opportunity to network and to learn more about the professional practice in transportation.

In addition and as previously noted, the center is sponsoring its first summer program, which will take place in Cal Poly Pomona. The summer program will seek to attract applicants with interests in transportation research from underserved and underrepresented demographics. An additional goal is to increase the number of students who choose transportation as their specialty and pursue graduate-level studies at region 9 campuses. The program also aims to prepare and students for the transition from academia to industry practice.
d. What is the impact on physical, institutional, and information resources at the university or other partner institution?
All consortium members are constantly leveraging their external relationships to improve the dissemination and reach of UCCONNECT tasks. In addition, UCCONNECT is proud to sponsor ACCEESS Magazine, hosted at the UCLA campus. The goal is to translate academic research into readable prose that is useful for policymakers and practitioners. Articles in ACCESS are intended to catapult academic research into debates about public policy, and convert knowledge into action. The magazine reaches a very wide audience with thousands of online subscribers and similar numbers of physical copies making their way to key stakeholders to highlight and disseminate the Center’s efforts.

e. What is the impact on technology transfer?
UCCONNECT is developing a series of seminars and workshops that will connect faculty and researchers within the consortium with various state practitioners and decision makers. This seminar series is planned to have a format that will enhance interaction between the presenters and their audience, thus facilitating technology transfer.

In addition, the center plans to pay special attention to dissemination tasks. As soon as some of our first RFP sponsored projects near completion the Center will use all resources at its disposal (e.g. website, seminar organization, mailing lists, etc.) to increase the reach of its research findings.

f. What is the impact on society beyond science and technology?
One of the main goals of UCCONNECT is to make sure that its sponsored research has an impact in the development and implementation of new policies and practices. To make sure that this goal is attained, UCCONNECT is in direct contact with key stakeholders, like the decision makers at California’s state transportation agency.

5. Changes/ Problems
   a. Changes in approach and reasons for change
      Nothing to report.

   b. Actual or anticipated problems or delays and actions or plans to resolve them
      Nothing to report.

   c. Changes that have significant impact on expenditures
      The center has experienced scheduling challenges due to new processes instated by Caltrans. However, this issue is expected to be streamlined in the future.

   d. Significant changes in use or care of human subjects, vertebrate animals, and/or biohazards
      Nothing to report.

   e. Change of primary performance site location from that originally proposed
      Nothing to report.