



ANNUAL REPORT 2018

Leonard Transportation Center

California State University, San Bernardino
www.csusb.edu/LTC



Leonard Transportation Center
CAL STATE SAN BERNARDINO

TABLE OF CONTENTS

Director's Letter	3
Overview of 2018 Activities	4
LTC's 2018 Strategic Initiatives	5
Research.....	5
Education	7
TLPPI Marketing Study	8
Transportation Technology & Governance Marketing Study ...	10
Community Outreach and Education	11
Activity Highlights	12
LTC Committee Representation.....	17
2019 Expectations	18
2018 LTC Advisory Council	19

A Note from the Executive Director:

It is my pleasure to present the 2018 Annual Activities Report on the key activities of the Leonard Transportation Center (LTC). This year set a number of benchmarks for the LTC, increasing our presence in the IE and working toward the goal set by the USDOT designation as an Innovation Center.

In February, the Advisory Council and staff of the LTC met for a one-and-a-half-day retreat to set the Center's research, community engagement, and education priorities. (The full 2018 Strategic Action Plan can be found on the LTC website under About Us.) One of our main priorities in 2018 was to increase our presence within the local community. Our first step towards accomplishing this goal commenced with the creation of the Leonard Transportation Center Regional Transportation Mobility Dialogue Series. This series was sponsored by HNTB, Inc. and entailed six morning events with experts, decision makers, and members of the community discussing transportation issues important to the development of the Inland Empire. The highlights from each Dialogue can be found on the LTC's website, under the Conversations tab. Based on the success of the 2018 Dialogues, we are currently working on the 2019 series, with six more discussions based in the Inland Empire and three set in the Coachella Valley. A full review of the topics to be covered can be found on the website. We hope you will be able to join us for these informative and engaging transportation discussions.

Additionally, we worked with a number of local organizations on community based research. The focus of this research coincides with our strategic plan goals of conducting research on transportation cybersecurity and general issues impacting the IE as a regional inland port. Finally, we continued to develop and implement workforce development/educational programs to assist professionals, established and upcoming, in the region. Approximately 50 Caltrans planning professionals participated in the Transportation Leadership, Planning, and Performance Institute. Our plans for 2019 are to host another 50 Caltrans employees and open the program to the community.

One final note, the LTC has prospered with the continued support from CSUSB President Tomás Morales and Provost Shari McMahan, and Dean Lawrence Rose of the Jack H. Brown College of Business and Public Administration. We thank them for their leadership as they have all demonstrated their personal commitment to the realization of the vision set forth by Bill Leonard in founding the LTC more than 10 years ago.

The transportation related issues facing the Inland Empire, and all of Southern California, are both complex and daunting. But, I believe that the progress made during 2018 - which is chronicled in this report - makes it clear that the leadership and staff of the LTC are committed to addressing the transportation related issues that will improve the quality of life for all citizens. I sincerely hope that all who read this will come to share both the pride in our performance and our optimism for the future of the LTC.

*Dr. Kimberly Collins
Executive Director, Leonard Transportation Center
California State University, San Bernardino
December 2018*

OVERVIEW OF 2018 ACTIVITIES



When the LTC was originally founded by William E. Leonard in 2006, the opening lines of the strategic plan as part of the Tier-2 UTC designation was: “The theme of this Center is *Decision-Making and Management of Transportation Systems*. It reflects the commitment to provide local, state, and federal transportation providers with increased capability to produce improved transportation decisions and with the information and research resources to better manage transportation systems (including public transit) and transportation investments.” With this vision in mind, the LTC Advisory Council and staff met for a day and a half working retreat in February 2018 to develop a new strategic action plan. The outcomes from this retreat put into place a work agenda that is focused on a unique contribution to academic research,

education and workforce development, and community development. The goal is to focus on a work portfolio that contributes to the improvement of the overall quality of life in the region as an Inland Port. The specific strategic framework included four main areas of concentration:

- **Research**
 - **Specific Focus on Enhanced Transportation Opportunities in an Inland Port Region**
 - **Specific Focus on Transportation and Cybersecurity**
- **Education & Workforce Development**
- **Community Outreach & Development**
- **Operations**

2018 Strategic Initiatives

RESEARCH:

SPECIFIC FOCUS ON ENHANCED TRANSPORTATION OPPORTUNITIES IN AN INLAND PORT REGION

City of Rialto, July 2017 – March 2018

This program was designed to help the City of Rialto with analysis and the decision-making process around issues of increased freight traffic in the city boundaries. The final report provided an introductory analysis of the problems associated with freight traffic, logistics, the deterioration of surface roads, and the overall environment.

Rialto as other cities in the Inland Empire are highly impacted by the presence of freight traffic due to the transportation of goods through the region. Therefore, this initial research has the possibility to impact other cities throughout the region.

Key findings from City of Rialto report:

1. Congestion pricing has been a practice that has been used by a number of municipalities around the world to mitigate the issue of traffic in particular areas.
2. A possible solution to Rialto's freight traffic problem is the development of a congestion pricing zone around the Renaissance Rialto area.
3. Implementing a congestion pricing program entails work on the financial costs, regulatory policies and restrictions, and public opinion/support.

Rialto Safe Routes to School (SRTS), September 2017 – February 2018

The CSUSB Leonard Transportation Center worked closely with the City of Rialto in providing research assistance with social, environmental, and equity issues related to the Safe Routes to School (SR2S) program. The specific write-ups and research included: best practices for community outreach; funding strategies for program sustainability; socioeconomic and environmental analysis of potential program barriers; and an academic literature on the topic of Safe Routes to School.

Important findings from Safe Routes to School report include:

1. A successful Safe Routes to School Program incorporates elements of equity (making sure everyone in the community has equal access to infrastructure improvements and program elements).
2. Lower income communities face disparities in infrastructure, environment, health and economically.
3. There are a variety of dynamics that could affect the community's participation in Safe Routes to School; neighborhood safety, language barriers, fears of gentrification, fear of law enforcement harassment, pollution, and disabilities.

4. Multi-disciplinary partnerships are essential in starting and sustaining Safe Routes to School programs. They are acquired using asset mapping and through social network analysis.
5. Community events, such as “Walk to School Parades and Bike Trains,” and incentive programs such as, “Frequent Walker Cards,” are essential to increase program interest and eliminate some of the safety concerns that parents have.
6. SRTS programs can address the needs of non-English speaking family members by finding bilingual teachers and parents willing to aid in communication, hiring, bilingual coordinators, and partnering with outside organizations.
7. Students with disabilities must be taken into account in SRTS programs; programs must include their parents on SRTS teams to voice their thoughts on audits, educational and encouragement programs.

RESEARCH:

SPECIFIC FOCUS ON TRANSPORTATION AND CYBERSECURITY

Key Recommendations Included

- Outreach to local officials: Present report findings, host educational conferences to educate officials on best practices and showcase best available technology.
- Information technology master plan for the Western Riverside Council of Governments region: Collaboration between WRCOG and CSUSB faculty and students in developing and carrying out an Intelligent Transportation Systems with a Cyber component Master Plan.
- Education and internship programming: Development of fellowship program with WRCOG for CSUSB cybersecurity students and development of training seminars for local officials.

Transportation Cybersecurity, April 2018 – August 2018

Safeguarding against cybersecurity attacks is quickly becoming a prevalent issue facing local government agencies. Working with the Western Riverside Council of Governments (WRCOG) and academic experts at CSUSB, a briefing paper on the current policy framework and the state of awareness to the possible cyber threats to the transportation system in the Inland Empire was completed.

Important findings from transportation cybersecurity report include:

1. Connected devices are named the top threats: of the 1,157 traffic signals surveyed in this study, 67.6% of them are connected (i.e., with signal coordination), and about 10% support connected vehicle applications. Cities recognize the potential of threats, 83% of transportation professionals specified that connected devices and cloud infrastructure present the most challenging risks to defend against attacks.
2. Cities lack cybersecurity support: 67% of respondents said they believe a lack of trained personnel is a major obstacle to adopting advanced security processes and technology. More support is needed.
3. Cities need to plan for future technology: nearly 80% of the agencies surveyed said that they are underfunded for their transportation needs.

EDUCATION

Transportation Leadership Planning and Performance Institute, April 2017 – Present

The Transportation Leadership, Planning and Performance Institute (TLPPPI) is a course at CSUSB that provides a comprehensive overview of transportation planning, performance, and leadership. The course has 26 modules and a capstone project. It covers an array of topics that are beneficial to individuals interested in learning about the future of transportation planning and technology such as strategic planning and leadership.

The purpose of the TLPPPI is to provide vital skills and applied information to entry-level/mid-level transportation planners working in California. Skills acquired can be applicable beyond transportation, and professionals can learn about how they can improve leadership skills, work with performance indicators, and update their knowledge in transportation planning.

Currently, this program is being offered to 100 Caltrans professionals free of charge. Two cohorts have completed the program and the third is currently enrolled.



Course Description:

The TLPPPI consists of 26 modules, plus a capstone project. Modules include pertinent reading assignments; basic lectures outlining main concepts and theories; advanced discussions of concepts through interviews with experts in the field; short essay assignments; a certification quiz; and a feedback form.

Leadership and strategic planning are indispensable qualities that are needed to be successful in any organization. Professionals who are not in the transportation field can still learn about how they can improve their leadership and how to be better planners from a transportation field viewpoint.

The LTC will be hosting approximately four more cohorts for Caltrans employees and then the TLPPPI will be opened up to the general public.



TLPPI MARKETING STUDY

A marketing analysis was conducted to gauge community interest in the TLPPI. The survey included questions on pricing options, course topics, and course delivery, and was sent out to professionals in the transportation sector throughout California.



57% of respondents indicated an interest in the TLPPI

Approximately 45% of respondents would pay between 0-\$1,500 dollars to be part of the TLPPI, approximately 38% would pay between \$1,500-\$3,000



71% of respondents expect to gain solely "knowledge" from the course, while the rest of the respondents (29%) expect to gain a raise, a promotion, or a combination of the three.

66% of respondents expect to improve all skills listed; Transportation Planning, Strategic Planning and Analysis skills, and Leadership skills. The rest of the respondents (34%) list one or a combination of skills that the TLPPI can improve.



The Building of Knowledge, Course Topics, and Length of Program were the top 3 course concepts that respondents found interesting about the TLPPI.

Certificate in Transportation Technology and Governance, Summer 2017 – Present

The Certificate in Transportation Technology and Governance provides insight into the intersection between Intelligent Transportation Systems (ITS) technologies and policy implementation. ITS apply communication, computational and sensing technologies in transportation applications to create safe, efficient and sustainable transportation. In order to implement these new technologies, IT professionals need to work with policy directors and program managers.

This certificate will provide knowledge and the opportunities to interact with people working in the transportation field, both from the technology and the program management sides. A key objective is to aid technologist and public/private managers to communicate more efficiently and work collaboratively on projects. We believe this certificate program has the content that will be of interest to managers in the public and private sectors. We hope to serve emerging leaders from IT and mid-level management.

Course Description:

The Certificate in Transportation Technology and Governance will include a culminating project that will help advance students in their occupations.

Classes will be offered through a mix of online lectures and group work, offered online, hybrid, and face to face formats.

The certificate will consist of six courses, including: an overview that looks at emerging technologies, an introductory course in transportation systems, a course on methods and strategies to managing technology, a course on leadership and a class

that covers project management in the public and private sectors, and the last course will consist of a final project. Courses will be for credit/no credit, credit earned with a 75% or higher.

The next step for the Transportation Technology and Governance Certificate will include building out the course curriculum and preparing it to be offered to the public in the near future.





CERTIFICATE IN TRANSPORTATION TECHNOLOGY AND GOVERNANCE MARKETING STUDY

The Certificate in Transportation, Technology and Governance has moved onto its second stage of planning. A marketing survey was developed by LTC staff to gauge community interest in the development of this certificate. The survey included questions on pricing options, course topics, and course delivery and was sent out to professionals in the transportation sector throughout California. The survey obtained approximately 63 responses.



Approximately 90% of respondents had a Bachelor's or higher

32% of respondents were 18-33, 68% were 33 and older



60% of respondents were men and 40% were women

57% of respondents indicated interest in the Certificate



Around 45% of respondents would pay between \$0-\$1,500 for the programs, around 40% would pay \$1500-\$3000 for the certificate.

65% of respondents expect to gain solely "knowledge" from the course, while the rest of the respondents (35%) expect to gain a raise, a promotion, or a combination of the three



61% of respondents indicated that they would like to improve all skills listed or all of the above: Leadership Skills, IT skills, Collaborative Skills. The rest of the respondents (39%) chose one or a combination of skills.

The Building of Knowledge, Course Topics, and Length of Program were the top 3 course concepts that respondents found interesting about the Technology and Governance Certificate



Community Outreach

LTC Regional Mobility Dialogue Series

Mobility is key to the Inland Empire's future economic growth and quality of life. Partnering the HNTB, Inc., LTC staff developed the Dialogue series to address the numerous regional projects and initiatives designed to improve mobility. Given the rapid pace of change in the transportation sector, most people today are not informed about the issues. The Dialogue series provides a forum for transportation professionals and community members to obtain a comprehensive overview of our mobility needs, the related social concerns, and the projects and initiatives now being discussed to address them.

2018 Topics

In 2018, the LTC successfully hosted a series of six breakfast dialogues on the following topics:

- Opportunities and Trade-offs in Transportation: Maintaining the Region's Competitiveness and Quality of Life
- Can Congestion Pricing Improve Mobility?
- Can Technology Save Us?
- Autonomous and Connected Vehicles - Will They Make Things Better or Worse?
- Transit and Rail - Are They the Answer?
- The Future of Transportation Funding - Gas Tax, Per Mile Fees and Other Ideas

Future Dialogue Series

With positive feedback from the series participants, the Leonard Transportation Center, with sponsorship from HNTB, Inc., and the San Bernardino International Airport, will be continuing the Dialogues into 2019 with six educational and interactive discussions bringing together community leaders and members on how to best address the region's mobility needs. We will also be offering three additional Dialogues in the Coachella Valley region, in partnership with the Agua Caliente Band of Indians, the Coachella Valley Economic Partnership, and the Coachella Valley Association of Governments.



ACTIVITY HIGHLIGHTS

In addition to our priority strategic initiatives, the LTC staff engaged in numerous community outreach activities during 2018. These included presentations and attendance at conferences, participation in stakeholder meetings, and working with university colleagues. These activities were invaluable in the development of strong and reliable associations, and promoting current and future strategic initiatives for the center.

Key staff members met the demands of a very rigorous monthly schedule.

2018 LTC Activities (Monthly)			
Month	Activity	Participants	Comments
January	Transportation Research Board Annual Meeting	LTC Executive Director	Learning and networking opportunities
February	LTC advisory council working retreat.	LTC staff, council members	Completed the 2018 strategic plan.
	First Regional Mobility Dialogue Series, Opportunities and Trade-offs in Transportation: Maintaining the Region's Competitiveness and Quality of Life	LTC staff, students, council members, public and private sector stake holders, community members	Community engagement, informational opportunity for community members and transportation experts
	Rialto SRTS Presentation with stakeholders	City of Rialto, LTC	Presentation was a comparison analysis of social factors affecting SRTS.
	Journal paper accepted by the IEEE Transaction on Intelligent Transportation Systems	LTC Innovation Lab	Google scholar ranked the journal #1 in Transportation category
	Submitted proposal to the California State University Transportation Consortium entitled "Mobile IoT System for Green Driving"	LTC Innovation Lab	Submitted
March	Second Regional Mobility Dialogue Series, Can Congestion Pricing Improve Mobility?	LTC staff, students, council members, public and private sector stake holders, community members	Community engagement, informational opportunity for community members and transportation experts

	Webinar presentation entitled "Immersive technologies: definition of terms and pedagogical advantages"	LTC Innovation Lab	Networking opportunities on VR technology in Cal State systems
April	Submitted a proposal to NSF CPS program entitled "Green Cyber Transportation Systems with Autonomous, Connected, and Electric-powered Vehicles" Linked In / Jobs For the Future regional conference, Long Beach, California	LTC Innovation Lab LTC Executive Director	
May	Third Regional Mobility Dialogue Series, Can Technology Save Us? Presentation at Internet2 Global Summit, entitled "Virtual Reality Content for Higher Education: Challenges and Opportunities" Project entitled, "Analysis of the Current State of Transportation Cybersecurity Regulations and Practices in the Inland Empire, California"	LTC staff, students, council members, public and private sector stake holders, community members LTC Innovation Lab LTC Director, LTC Innovation Lab	Community engagement, informational opportunity for community members and transportation experts Conference presentation Briefing paper completed and submitted to the WRCOG
June	Ontario Airport Round Table LTC Advisory Council Meeting Submitted proposal to the California Air Resources Board entitled "Research Roadmap for the	LTC Staff, JHBC Dean, CSUSB President, local stakeholders LTC Staff, students, faculty, council members LTC Director	Updates and upcoming plans for the Ontario Airport Update on LTC current events, gain insight from council members, map out future projects and events

	Development of a 1-hour PM2.5 Standard: White Paper and Symposium”		
July	<p>Fourth Regional Mobility Dialogue Series, Autonomous and Connected Vehicles - Will They Make Things Better or Worse?</p> <p>LTC Advisory Council Personal Impact Plan Meeting</p> <p>LTC Advisory Council Personal Impact Plan Meeting</p>	<p>LTC staff, students, council members, public and private sector stake holders, community members</p> <p>LTC Executive Director, Council Chair, Council Member - Kome Ajise</p> <p>LTC Executive Director, Council Chair, Council Member - Deborah Robertson</p>	<p>Community engagement, informational opportunity for community members and transportation experts</p> <p>LTC Advisory Council Personal Impact Plan Meeting</p> <p>LTC Advisory Council Personal Impact Plan Meeting</p>
August	Presentation at Cal State Tech Conference, entitled “Virtual Reality and Student Success: From Design Pedagogy to Embodiment”	LTC Innovation Lab	Conference presentation
September	<p>Fifth Regional Mobility Dialogue Series, Transit and Rail - Are They the Answer?</p> <p>Caltrans Innovation Fair</p> <p>Greater Riverside Chambers of Commerce -- Transportation Report</p> <p>LTC Advisory Council Personal Impact Plan Meeting</p>	<p>LTC staff, students, council members, public and private sector stake holders, community members</p> <p>LTC Staff, Caltrans employees, Council Chair</p> <p>LTC Staff, CSUSB President’s Office, Faculty</p> <p>LTC Executive Director, Council Chair, Council Member - Mike Burrows</p>	<p>Community engagement, informational opportunity for community members and transportation experts</p> <p>Promoted LTC visibility and gaged educational interest on transportation certificate</p> <p>Presentations by the new transportation leadership - CSUSB/ LTC was a gold sponsor of the event</p> <p>Personal impact plan meeting of expectations and commitments to LTC</p>

October	<p>Mobility 21 Summit</p> <p>Regional Work Based Learning Meetings</p> <p>LTC Advisory Council Personal Impact Plan Meeting</p> <p>LTC Advisory Council Personal Impact Plan Meeting</p> <p>LTC Advisory Council Meeting</p> <p>SCAQMD AB 617 Community Kickoff Meeting</p>	<p>LCT Staff, stakeholders, council members</p> <p>LTC Staff</p> <p>LTC Executive Director, Council Chair, Council Member - Matthew Barth</p> <p>LTC Executive Director, Council Chair, Council Member - Tom Davis</p> <p>LTC Staff, students, faculty, council members</p> <p>LTC Executive Director, LTC Staff</p>	<p>Network with transportation stakeholders, market dialogue series and learn about regional transportation issues</p> <p>Network with regional educational leaders, learn of internship opportunities for students</p> <p>Personal impact plan meeting of expectations and commitments to LTC</p> <p>Personal impact plan meeting of expectations and commitments to LTC</p> <p>Update on LTC current events, gain insight from council members, map out future projects and Events</p> <p>Obtain information on local air pollution issues, learn about community needs to assist in solutions.</p>
November	<p>Sixth Regional Mobility Dialogue Series, The Future of Transportation Funding - Gas Tax, Per Mile Fees and Other Ideas</p> <p>Ontario Airport Round Table</p> <p>Regional Work Based Learning Meeting</p>	<p>LTC staff, students, council members, public and private sector stakeholders, community members</p> <p>LTC Staff, CSUSB President, local stakeholders</p> <p>LTC Staff</p>	<p>Community engagement, informational opportunity for community members and transportation experts</p> <p>Updates and upcoming plans for the Ontario Airport</p> <p>SB Superintendents Office and the WIB collaborative meeting with regional</p>

	LTC Advisory Council Personal Impact Plan	LTC Executive Director, Council Chair, Council Member - Janice Benton	educational leaders, learn of internship opportunities for students Personal impact plan meeting of expectations and commitments to LTC
	Meeting AB 617 Steering Committee Meeting #1	LTC Staff	LTC Staff member serves as alternate CSUSB rep. for AB 617 San Bernardino and Muscoy Committee.
	IEEE Intelligent Transportation Systems Conference	LTC Innovation Lab	Network and outreach with the research community
December	Ninth Annual Southern California Economic Summit	LTC Executive Director, Council Member - Kome Ajise	Network opportunity, Local civic and business leaders assess current state of region's economy, discuss role of technology and innovation
	LTC Advisory Council Meeting	LTC Staff, students, faculty, council members	Update on LTC current events, gain insight from council members, map out future projects and Events
	Submitted a proposal to NSF IUSE program, entitled "Online Interactive Virtual Environment for Transportation Engineering Education"	LTC Innovation Lab	Result pending
	Submitted a proposal to CALTRANS, entitled WRCOG Multimodal Advanced Transportation Systems and Cybersecurity Strategic Plan	LTC Director and staff	Result pending

LTC COMMITTEE REPRESENTATION

Title	Representative
SCAQMD AB 617 Steering Committee	LTC Staff
Regional Work Based Learning Oversight Committee	Dr. Kimberly Collins, LTC Staff
Business Engagement Alignment Team (Linked learning)	Dr. Kimberly Collins, LTC Staff
Distribution Management Association	Dr. Kimberly Collins
Good Neighbor Environmental Board	Dr. Kimberly Collins
Redlands Park and Recreation Commission	Dr. Kimberly Collins



2019 EXPECTATIONS

In the coming year, the LTC will further develop its research agenda, focusing on intelligent transportation systems (ITS) and cybersecurity, and improving the quality of life in an Inland Port region. It is our goal to continue with the commitment towards research, community development, and education in the transportation field to improve the employment sector; business efficiencies and sustainability; new industry clusters; traffic congestion, safety, and management; environmental and health impacts; and compliance with federal and state regulations. As part of this goal, we will be building out an innovation lab focused on data and decision-making software to educate students and help local communities with their work.

Additionally, we will be focusing on expanding our community collaboration, and building out faculty and student research programs that support the Center's strategic goals. One goal is to work with faculty across the CSUSB campus on multidisciplinary programs. All of this work will be done in collaboration with the Center's Advisory Council and the Strategic Action Plan from February 2018.

The original mission of William and Barbara Leonard, when they started the Center in 2006, was to assist the Inland Empire with meeting its transportation needs. The LTC will continue to operate within this vision by working collaboratively with businesses, residents, government and nonprofit agencies, and area researchers on improving sustainability and life in the Inland Empire.

2018 ADVISORY COUNCIL MEMBERS

Advisory Board	
Member	Affiliation
Kome Ajise	Southern California Association of Governments
Doran J. Barnes / David Reyno	Foothill Transit
Matthew Barth, Ph.D / Nicole Cleary, Ph.D	CE-CERT, University of California, Riverside
Rick Bishop / Christopher Gray	Western Riverside Council of Governments
John Bulinski	Caltrans District 8
Mike Burrows	San Bernardino Airport Authority
Garry Cohoe	LTC Council Chair, Advanced Civil Technologies
Kimberly Collins, Ph.D.	Professor, CSUSB, Jack H. Brown College of Business and Public Administration; Executive Director, Leonard Transportation Center
Carrie Gilbreth	Westbound Communications
Paul Granillo	Inland Empire Economic Partnership
Yunfei Hou, Ph.D.	Director, LTC Innovation Lab Assistant Professor Computer Science & Engineering, CSUSB
Xudong Jia, Ph.D., P.E.	California State Polytechnic University, Pomona
William "Bill" R. Leonard	Capitol Commission volunteer State Legislator 1978-2002 Board of Equalization 2003-2010, Secretary State and Consumer Services 2010
Frank Lin, Ph.D.	Information and Decision Sciences, CSUSB
Steven PonTell	President and Chief Executive Officer, National Community Renaissance
Deborah Robertson	City of Rialto
Erin Rogers	OmniTrans
Lawrence C. Rose, Ph.D.	Dean of the Jack H. Brown College of Business and Public Administration, CSUSB
Khalil Saba	Vice President, EXP
Javad Varzandeh	Information and Decision Sciences, CSUSB
Liza Wilson	Forest Pharmaceuticals, Inc.
Xinkai Wu, Ph.D.	California State Polytechnic University, Pomona
Jun Wang, Ph.D.	Bourns College of Engineering, University of California, Riverside
Jake Zhu, Ph.D.	College of Education and Information and Decision Sciences, CSUSB