

# ANNUAL REPORT 2023

LEONARD TRANSPORTATION CENTER  
CALIFORNIA STATE UNIVERSITY,  
SAN BERNARDINO



Leonard Transportation Center  
CAL STATE SAN BERNARDINO



[www.csusb.edu/ltc](http://www.csusb.edu/ltc)

## 1. A Note from the Executive Director

The LTC team is delighted to present the 2023 annual report outlining the center's activities, research, and outreach. The Leonard Transportation Center (LTC) believes that the region's transportation system is at a critical point where innovative transportation solutions must be implemented to improve the Inland Empire (IE) residents' quality of life.

As we wrap up another year filled with achievements and meaningful collaborations, I want to extend my heartfelt gratitude to each and every one of you for your unwavering dedication and hard work. Together, we have accomplished so much in advancing our mission of shaping the future of transportation in the Inland Empire. Through our website improvements and social media efforts, we have ensured that the LTC remains at the forefront of these important conversations.



Our key events and activities, from the Research Initiatives to the insightful Dialogue Series sessions, have brought together stakeholders from diverse backgrounds to exchange ideas and drive progress. I am particularly proud of our involvement in scholarly publications, committee representations, and advisory council meetings, which have solidified our position as leaders in transportation research and advocacy. Looking ahead to 2024, I am filled with excitement and optimism for the opportunities that lie ahead. With a robust agenda focused on sustainability, equity, and innovation, we are well-positioned to make even greater strides in advancing transportation initiatives in our region. Additionally, the 2024 planned Dialogue Series topics promise to spark thought-provoking discussions and pave the way for transformative solutions.

As we embark on this new chapter, let us continue to collaborate, innovate, and inspire positive change. Together, we will build a more sustainable, equitable, and accessible transportation system for the Inland Empire and beyond.

I will end my note with a quote that inspires our work: "Striving for social justice is the most valuable thing to do in life." – Albert Einstein

***Dr. Kimberly Collins***

***Executive Director, Leonard Transportation Center, CSUSB***

***December 2023***

## 2. Overview of 2023 Activities

In 2023, the Leonard Transportation Center experienced a significant surge in its activities, marked by extensive research endeavors, educational initiatives, and community outreach efforts. The LTC strengthened as new students joined and made meaningful contributions. A cornerstone of LTC's success lies in its inclusive approach to research programs and actively engaging students from diverse disciplines. Collaborations with institutions like the University of California, Riverside (UCR) and Cal Poly Pomona (CPP) further amplified LTC's impact, particularly in addressing pressing transportation-related challenges. Furthermore, LTC's community engagement through the Dialogue Series provided a platform for policymakers, researchers, and students to address transportation challenges and showcase innovative solutions, fostering collaboration and knowledge exchange among stakeholders.

In addition to its proactive research and community engagement efforts, LTC remained at the forefront of industry trends and innovations by participating in conferences. Attendance at conferences such as the ESRI, TRB, Mobility 21, SoCal Transportation Summit, and Knowledge Discovery and Data Mining (KDD), underscored LTC's commitment to staying at the forefront of transportation research and practice. The Regional Transportation Dialogues, focusing on topics ranging from zero emissions to urban development, served as crucial forums for engaging policymakers, researchers, and stakeholders in discussions aimed at fostering sustainable transportation solutions tailored to the unique needs of the Inland Empire region. Through these multifaceted efforts, LTC continued to work on being part of the process to shape a more sustainable and resilient transportation future for the IE community.

## 3. 2023 Strategic Initiative

### 3.1. Research

#### 3.1.1. *The 4th LTC Student Research Challenge*

The Fourth Student Research Challenge began in the summer of 2023 to explore the topic of "The Nexus Between Transportation and Housing". A total of six students were selected from California State University, San Bernardino (CSUSB), Cal Poly Pomona (CPP), and the University of California, Riverside (UCR). This nine-month program is focused on two important policy issues for the region and California – Transportation & Housing.

During the summer, students attended a boot camp developed by LTC staff with speakers from CSUSB, CPP, UCR, South Coast Air Quality Management District (SCAQMD), and Western Riverside Council of Governments (WRCOG). During this initial session, the students learned about research techniques, data sources, systems, and institutions. The students also took a field trip to the Southern California Association of Governments (SCAG) headquarters in downtown Los Angeles. During this visit, students were able to engage with the leadership team members Kome Ajise, Executive Director; Sarah Jepson, Planning Director; Marco Anderson, Program Manager; and many staff researchers. Each shared invaluable insights into data and studies on

transportation, demographics, and housing available at SCAG. There was also an extensive conversation on the politics of regional planning. On our return to San Bernardino, we were able to tour Union Station with a guide from LA Metro. The students learned about the infrastructure, operations, and LA Union Station’s pivotal role in connecting communities, reducing congestion, and fostering sustainable transportation throughout the Los Angeles region. Throughout the year, the Research Challenge students showcased their work at various conferences, meetings, and LTC Dialogues. This provided opportunities for them to enhance their communication skills and contribute to the discussion on housing and transportation affordability in the IE.

The research findings illuminated the profound impacts of housing and transportation dynamics on the economic, social, environmental, and health landscapes of the Inland Empire. Economically, the disparity between housing costs and incomes burdens many households, necessitating trade-offs between housing and transportation expenses. This disparity often translates into longer commutes and increased transportation costs, particularly in areas lacking viable alternatives to driving. Socially, residents encounter challenges in accessing public transportation options, further exacerbating the complexities of transportation and housing in the region. In response, various initiatives and programs, led by organizations like SCAG, are underway to address these challenges. These efforts aim to foster innovation and resilience in the transportation and housing systems of the Inland Empire, ultimately striving for a more equitable and sustainable future for its residents.

The 4th LTC Student Research Challenge Team:

At the outset of the summer, the LTC Fourth Student Research Challenge team comprised six students, with two each from CSUSB, Cal Poly Pomona, and UCR. Regrettably, due to scheduling conflicts and other unforeseen factors, some students withdrew from the research challenge, resulting in a downsized team of four student researchers. Despite this setback, the team persevered with the support of five dedicated faculty advisors who offered guidance and assistance whenever needed.

Faculty Advisors		Student Researchers	
Dr. Kimberly Collins	CSUSB	Carolina Carlos	CSUSB
Dr. Raffi Der Wartanian	CSUSB	Dorlins Villalobos	UCR
Dr. Rick Bishop	UCR	Jordan Leffew	UCR
Dr. Robert Stokes	CSUSB	Yasmin Rasooli	Cal Poly Pomona
Dr. Yongping Zhang	Cal Poly Pomona		



### 3.1.2 *SQL Database Built*

Implementing a structured query language (SQL) database significantly benefited the LTC research team by providing efficient data organization, analysis, integration, security, and management. This database allowed LTC to organize vast amounts of transportation-related data and enhanced accessibility. Students at LTC can now leverage Python alongside SQL for various purposes in transportation studies. Python's libraries like Pandas and Matplotlib enable them to analyze transportation data stored in SQL databases, extracting valuable insights and visualizing trends.

### 3.1.3 2023 Transportation Research Board (TRB) 102nd Annual Meeting

The Transportation Research Board (TRB) held its 102nd Annual Meeting from January 8-12, 2023, in Washington, DC. Drawing transportation professionals from across the globe, the event featured a comprehensive program covering all modes of transportation. At the 2023 Transportation Research Board (TRB) 102nd Annual Meeting, LTC presented the poster titled "Social Equity and Public Transit in Suburban Areas: A Case Study of the Inland Empire During the COVID-19 Pandemic." This work was based on the work of the Second Student Research Challenge team and was authored by Dr. Kimberly Collins, Dr.



Raffi Der Wartanian, Preston Reed, Holly Chea, Dr. Yunfei Hou, and Dr. Yongping Zhang. The presentation focused on the impact of the COVID-19 pandemic on public transit systems and social equity within the Inland Empire, a region known for its diverse population. The team utilized a transit equity analysis model that involved multiple linear regression analysis on data from 645 census tracts, resulting in a transit equity index that highlighted disparities in service accessibility in racially marginalized communities.

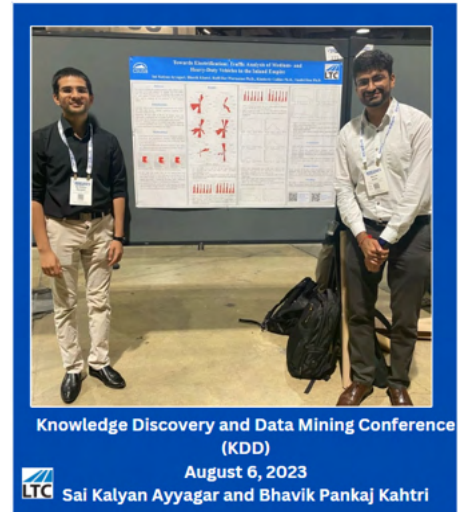
### 3.1.4 Electrification of Medium- and Heavy-Duty Vehicles in the Inland Empire

The LTC team worked throughout the year on a research project that looked into the transition of medium- and heavy-duty (MD/HD) fleets to electric vehicles in the Inland Empire. The IE is considered an inland port as it supports over 22,000 transportation and warehousing facilities connected to the ports of Los Angeles and Long Beach. The study was divided into three sections: 1) the policies that have been developed to move the MD/HD fleet to electric vehicles; 2) mapping the traffic patterns, logistics centers, and rest areas for MD/HD vehicles to support various scenarios for opportunity charging stations; 3) the social equity considerations needed to make sure that this transition brings the most companies possible along.

This research was funded through a grant from the CSU Transportation Institute. The writing of this report was a team effort with contributions from CSUSB faculty and students, and technical experts from San Bernardino Valley College. The full report is expected to be published in 2024, along with an interactive dashboard and a Story Map that complements the findings.

### 3.1.5 Knowledge Discovery and Data Mining Conference (KDD)

In August 2023, Sai Kalyan Ayyagari and Bhavik Khatri, graduate research assistants at the LTC and Computer Science Master's students, presented at the Knowledge Discovery and Data Mining Conference (KDD) held in Long Beach, California from August 6-10, 2023. Their presentation focused on the traffic analysis of medium- and heavy-duty vehicles in the Inland Empire. As representatives of LTC, the students showcased their dedication to advancing transportation research through their participation in the conference, contributing valuable insights and expertise to the discourse on knowledge discovery and data mining within the transportation sector.



## 3.2. Education and Workforce Development

### 3.2.1. Greater LA Data Science Pathways (GLADS-PATH)

Graduate student assistants at the LTC were able to participate in the Greater LA Data Science Pathways (GLADS-PATH) project. This project was funded by a \$1.275 million California Learning Lab grant over four years. CSUSB was one of the Principal Investigators and received \$165,000 to establish flexible educational pathways in data science. This initiative brings together partners from high schools, community colleges, and universities, including UC Riverside, Cal Poly Pomona, and Pasadena City College, to develop a Network Improvement Community (NIC) for sharing best practices in curriculum development and student success strategies. The project supports transfer students through Bridge programs and creates an Undergraduate Learning Assistant (ULA) program while extending data science education through interdisciplinary and general education courses.



Through course development, outreach, and workshops, the project builds a pipeline from high school to a 2-year Associate's Degree and onward to Data Science majors/minors at 4-year institutions, fostering long-lasting relationships among partnering institutions to ensure enduring impact in Data Science education.

### 3.2.2. *Creating Pathways to Computing Careers through Experiential and Engaged Learning*

The NSF S-STEM grant, titled "Creating Pathways to Computing Careers through Experiential and Engaged Learning," allocates \$2.5 million over five years to the Experiential Computing and Engaged Learning Scholarships (ExCELS) project. This initiative aims to revitalize computing education in California's Inland Empire region by establishing inclusive and sustainable pathways to careers in computational sciences. Targeting low-income and underrepresented students, ExCELS provides scholarships, mentorship, and experiential learning opportunities. The program's key objectives include enhancing the retention and graduation rates of low-income undergraduates through economic support, transforming programming courses with culturally responsive teaching methods, implementing a summer research program for guided research experiences, and organizing quarterly forums for students to engage with technology companies, policymakers, and thought leaders. These efforts aim to cultivate a diverse and inclusive workforce in computational sciences, aligning with the NSF's mission of promoting scientific advancement and innovation. The LTC helped to coordinate meetings with the policymakers and regional leaders, and supported the student learning process through direct engagement with affiliated faculty.

### 3.2.3. *DMA Supply Chain Summit: Providing Opportunities to the Next Generation*

Dr. Collins presented at the DMA Supply Chain Summit event held on September 18, 2023. The LTC presentation focused on the need for businesses to engage with universities to improve the knowledge of the upcoming workforce. Overall, the summit tackled the pressing issue of hiring a qualified workforce within the supply chain industry. Participants acknowledged the absence of standardized qualifications across the sector and the rapid technological advancements contributing to hiring complexities. Moreover, traditional hiring methods were critiqued for their inability to comprehensively evaluate essential skill sets, including emotional intelligence, soft skills, and cross-cultural competency. Discussions centered on the transformative potential of automation, machine learning, and next-gen technologies, which may redefine roles while offering efficiency gains. However, ethical considerations such as data privacy and environmental sustainability emerged as critical factors requiring careful attention for successful integration. Climate resiliency and sustainability emerged as paramount concerns impacting the supply chain industry workforce. Participants highlighted the adverse effects of extreme weather events on worker safety and productivity, underscoring the need for a diversified skill set to address sustainability challenges effectively.



### 3.2.4. *2023 Mobility 21 SoCal Transportation Summit*

The LTC staff participated in the Mobility 21 SoCal Transportation Summit. This event is a pivotal forum aimed at addressing Southern California's pressing transportation challenges while





mobilizing regional support for crucial funding and legislative priorities. The summit's primary objectives encompass highlighting policy priorities, enhancing public involvement in advocating for transportation funding, and educating government officials and the broader community on the significance of a unified vision for transportation in the region. Throughout the event, discussions revolved around key themes such as the impact of the global pandemic, supply chain disruptions, equity concerns, and the changing landscape of mobility. The LTC staff members networked with businesses and engaged in sessions focused on strategies for building a safer and more resilient California, innovations in transit shaping the future, and the

indispensable role of the maritime industry and supply chains in Southern California's economic prosperity.

### 3.2.5. 2023 ESRI User Conference

Dr. Raffi Der Wartanian, LTC's research fellow, attended the ESRI User Conference in July 2023. At this event, he learned from experts in various fields who shared their groundbreaking work and technological advancements in utilizing Geographic Information Systems (GIS) for diverse applications. Throughout the conference, attendees were introduced to a host of new products and capabilities within the ArcGIS ecosystem. From a comprehensive 3D basemap of the planet to enhancements in ArcGIS Pro and ArcGIS Online for data visualization and analysis, the advancements promise to revolutionize the way GIS is utilized across various sectors. Additionally, mobile capabilities, monitoring system performance with ArcGIS Monitor, and the introduction of new features in ArcGIS StoryMaps were met with enthusiasm, offering attendees a glimpse into the future of GIS technology. Raffi was able to take many of the skills he learned in this conference, teach them to the LTC research assistants, and apply them to many of the project deliverables throughout the year.



### 3.3. Community Outreach and Development

#### 3.3.1. Regional Mobility Dialogue Series (RMDS)

Over the past six years, the LTC has successfully hosted 39 Regional Mobility Dialogues (RMDS) to address mobility concerns in the Inland Empire. These Dialogues aim to bring together stakeholders from the public and private sectors, as well as community members, to improve mobility and promote economic growth for the region.

The LTC Dialogues serve as a comprehensive platform addressing key facets of transportation in the Inland Empire. Covering topics ranging from public transit safety to workforce development and state legislative policies, these discussions reflect the region's dynamic transportation landscape. Participants engage with experts from various sectors, including government, academia, and industry, to understand challenges and explore solutions. From the imperative of equitable transportation funding allocation to the forefront of hydrogen integration and the evolving needs of the transportation workforce, the Dialogues foster collaboration and innovation. Moreover, they emphasize the crucial role of effective governance and legislative policies in shaping the region's transportation future, ensuring resilience and sustainability in the face of evolving demands and opportunities.

The table below provides the date for each event, an overview of the topics, and the number of participants. Over the past year, the Dialogues have been hosted in-person at Omnitrans and virtually via Zoom. The series aimed to enhance overall quality by fostering valuable discussions and offering insights on the impact of various topics such as balancing the race to zero emissions in transportation, envisioning a future with an integrated energy system, traffic patterns in the Inland Empire, developing a sustainable Inland Southern California port, urban development and transportation in the Inland Empire, moving people within the Inland Empire, and linking surface to air transportation.

Date	Dialogue Topic	Number of Participants
Feb 21, 2023	Balancing the Race to Zero Emissions in Transportation: Envisioning a Future with an Integrated Energy System	77
Apr 18, 2023	Back in the Office? Traffic Patterns in the Inland Empire	47
June 20, 2023	Developing a Sustainable Inland Southern California Port	58
Aug 22, 2023	Urban Development and Transportation in the Inland Empire	46
Oct 17, 2023	Moving People within the Inland Empire	52
Dec 12, 2023	Linking Surface to Air Transportation	40
<b>2023</b>	<b>Total Participants</b>	<b>320</b>

The 2023 series was sponsored by:

Platinum Sponsors:



Gold Sponsors:



Silver Sponsors:



Hosted by:



3.3.2. *How safe do you feel riding public transit in San Bernardino County?*

The Leonard Transportation Center hosted an in-person listening session titled "How safe do you feel riding public transit in San Bernardino County?" This workshop was conducted to support SBCTA consultants in a project regarding the perceptions of transit safety. The Leonard Transportation Center convened a discussion on transit safety in urban areas, with a focus on San Bernardino County. Attendees delved into several key aspects of transit safety, including crime and security concerns such as personal safety, theft, and harassment on public transit. This event provided a platform for students, faculty, and staff to share experiences and insights aimed at improving transit safety and ensuring equitable access to transportation options for all residents of San Bernardino County. The LTC supports these community efforts, as we are dedicated to creating a safer, more reliable, and inclusive public transit system for everyone.

3.3.3. *Caltrans Innovation Fair 2023*

LTC staff participated in the Caltrans District 8 Innovation Fair. This event serves as an opportunity to network with companies throughout the region that are providing innovative solutions to transportation challenges faced by the IE. This year, the Innovation Fair took place on Tuesday, October 24, 2023, in downtown San Bernardino at the District Office. Overall, LTC's participation in the Caltrans District 8 Innovation Fair reaffirmed our commitment to staying at the forefront of transportation innovation and our dedication to contributing to the ongoing evolution of the industry.



3.3.4. *Pasadena Passenger Vehicle Charging Infrastructure Tour*



Dr. Kimberly Collins, and Gabriel Lara, Graduate Assistant at LTC, toured the City of Pasadena's Department of Water and Power passenger vehicle charging infrastructure. They had the opportunity to see firsthand the extensive network of electric vehicle charging stations throughout the city, understanding their strategic placement and usage. The event also included a short but insightful tour of the electric vehicle parking structure at the California Institute of Technology.

3.3.5. *Online Presence*

3.3.5.1. *Social Media*

The LTC has continued to grow its web presence via social media platforms over the past year. While our Facebook and LinkedIn followers remained unchanged in 2023, the LTC Instagram account experienced an 80.8% growth. These platforms continue to serve as informational and educational sources for the community as we post regular updates on the Center's activities and invitations to events.

Platform	% Followers Gained 2023
Instagram	80.8%
Facebook	0.0%
LinkedIn	0.0%

3.3.5.2. *YouTube*

The Regional Mobility Dialogues are edited and uploaded on YouTube. A full version is provided along with a highlight video. These videos are accessible to the general public via links on the Center's website. Presented below are the analytics:

Content	Views	Watch time (hours)	Subscribers	Impressions	Impressions click-through rate
<b>Total</b>	48	5.2	0	1,100	2.5%

3.3.5.3. *Website*

The LTC website has been built with the community in mind. We hope that community members from CSUSB and stakeholders from across the IE, the state, and beyond will use it as a resource to learn more about our ongoing activities and advances in transportation research. The website has undergone a number of improvements and revisions over the past year to increase user friendliness and content navigation. The analytics for 2023 are provided below.

Page	Page views	Unique page views	Views per user	Avg. time on page	Event count	Key events
LTC	10,780	2,542	4.24	1 min 33 sec	26,659	2

### 3.4. Activities and Outcomes

#### 3.4.1. *Thanksgiving Potluck*

The annual Thanksgiving potluck lunch brought together LTC student assistants, faculty, and staff together to share dishes from various cultures. As the team convened, the faculty took a moment to commend the dedication and hard work demonstrated by the student assistants throughout the year, encouraging them to continue striving for excellence. It was a heartwarming opportunity to connect and reflect as the year drew to a close.



#### 3.4.2. *Advisory Council Christmas Party*



The final council meeting of the year took place at CSUSB's College of Education. Attendees included LTC staff, faculty, students, and stakeholders, who came together to review end-of-year achievements and establish new goals for the upcoming year. The meeting provided an opportunity for reflection on past accomplishments and areas for improvement, fostering networking and dialogue among participants. A highlight of the meeting was the presentation by our Research Challenge Team, who provided an overview of their project progress and outlined the remaining tasks. Their report served as a valuable insight into ongoing initiatives within the community.

### 3.4.3. Publications

#### Conference Papers:

Collins, K., Der Wartanian, R., Reed, P., Chea, H., Hou, Y., Zhang, Y., (2023), Social Equity And Public Transit In The Inland Empire: Introducing A Transit Equity Analysis Model. TRB National Meeting, January 2023, Washington, DC, USA.

Khatri, B., Ayyagari, S. K., Der Wartanian, R., Collins, K., & Hou, Y. (2023). Towards electrification: Traffic analysis of medium-and heavy-duty vehicles in the Inland Empire. In Proceedings of the Knowledge Discovery and Data Mining (KDD). August 2023, Long Beach, CA, USA.

Sun, Q., Hou, Y., Lu, J., (2023). An Automated On-Bed Rehabilitation System Design Based on Pressure Sensory Data Analysis. IEEE ICAIBD 2023.

Zhao, Y., Yang, C., Zhao, G., Hou, Y., Wang, T. and Qiao, C., (2023), JointPS: Joint Parameter Server Placement and Flow Scheduling for Machine Learning Clusters, IEEE Transaction on Computers.

#### Journal Articles:

Collins, K. (2023). Defining the Challenges of Twenty-First-Century Governance through an Analysis of North America's Borders. *Contemporary Sociology: A Journal of Reviews*, 52(1).

Collins, K., Der Wartanian, R., Reed, P., Chea, H., Hou, Y., Zhang, Y., (2023), Social Equity And Public Transit In The Inland Empire: Introducing A Transit Equity Analysis Model. *Transportation Research Interdisciplinary Perspective*, 21: 1-10.

Holliman, A., K. Collins (2023). California's cap-and-trade program: Is it effective in advancing social, economic, and environmental equity? *Public Administration and Policy*. 26(2): 128-141

3.4.4. *LTC Committee Representation*

Title	Representative
Regional Work-Based Learning Oversight Committee	Kimberly Collins, LTC Staff
Distribution Management Association (DMA) of Southern California	Kimberly Collins
Inland Southern California Climate Collaborative	Kimberly Collins
ETruc Workforce Development Advisory Committee	Kimberly Collins
SBD Hydrogen Hub	Kimberly Collins
SBVC Pits / Transportation Parking Advisory Board	Kimberly Collins
Association of Borderland Scholars, Board of Directors	Kimberly Collins
Good Neighbor Environmental Board	Kimberly Collins
Redlands Park and Recreation Commission / Friends of Prospect Park	Kimberly Collins
IEEE International Conference on Computer Communications and Networks	Yunfei Hou
ACM Technical Symposium on Computer Science Education	Yunfei Hou
Computer Science Conference for CSU Undergraduates	Yunfei Hou
ACM SIGKDD Conference on Knowledge Discovery and Data Mining	Yunfei Hou
NSF Review Panel: Directorate for Computer and Information Science and Engineering	Yunfei Hou
NSF Review Panel: Directorate for STEM Education	Yunfei Hou
Colorado River Basin Symposium on Sustainable Energy, Environment, and Urban Development	Yunfei Hou
California Alliance for Data Science Education	Yunfei Hou

3.4.5. Activity Highlights

Month	Activity	Participants
January	Transportation Research Board (TRB) 102nd Annual Meeting	Staff, students, faculty, council members
	Pasadena Passenger Vehicle Charging Infrastructure Tour	Staff, students, faculty, council members
February	First Dialogue Series of 2023- Balancing the Race to Zero Emissions in Transportation: Envisioning a Future with an Integrated Energy System	All staff, students, council members, public and private sector stakeholders, community members
March	Advisory Council Meeting	All staff, students, faculty, council members
April	Second Dialogue Series of 2023- Back in the Office? Traffic Patterns in the Inland Empire	All staff, students, council members, public and private sector stakeholders, community members
May	Advisory Council Meeting	All staff, students, faculty, council members
	The Fourth Student Research Challenge Started	6 students from CSUSB, CPP, and UCR, led by 3 faculty from each institution
	IEEP Presents: Southern California E-commerce and Logistics Summit	All staff, students, faculty, council members
June	Advisory Council	All staff, students, faculty, council members
	SCAG Field Trip	LTC Research Challenge Participants
	LA Metro Tour	LTC Research Challenge Participants
	UCR Guest Speaker- LTC Research Challenge	LTC Research Challenge Participants
	AQMD Guest Speaker- LTC Research Challenge	LTC Research Challenge Participants



	Third Dialogue Series of 2023-Developing a Sustainable Inland Southern California Port	All staff, students, council members, public and private sector stakeholders, community members
July	PERKINS Advisory for SBVC Heavy Duty Truck and Pacific High School	All staff, students, faculty, council members
	ESRI Conference	All staff, students, faculty, council members
August	Fourth Dialogue Series of 2023 – Urban Development and Transportation in the Inland Empire	All staff, students, council members, public and private sector stakeholders, community members
	Knowledge Discovery and Data Mining Conference	All staff, students, faculty, council members
	WattEV	All staff, students, faculty, council members
September	Advisory Council	All staff, students, faculty, council members
	Mobility 21 SoCal Transportation Summit	All staff, students, faculty, council members
	DMA Supply Chain Conference	All staff, students, faculty, council members
October	Fifth Dialogue Series of 2023-Moving People within the Inland Empire	All staff, students, council members, public and private sector stakeholders, community members
	Advisory Council	All staff, students, faculty, council members
	Caltrans District 8 Innovation Fair	All staff, students, faculty, council members
November	LTC Thanksgiving Potluck	All staff, students, faculty, council members
	Transit Safety Discussion	All staff, students, faculty, council members

	Meeting with Scott Strelecki SCAG	All staff, students, faculty, council members
December	Sixth Dialogue Series of 2023-Linking Surface to Air Transportation	All staff, students, council members, public and private sector stakeholders, community members
	14th Annual Southern California Economic Summit	All staff, students, faculty, council members
	Advisory Council Meeting	All staff, students, faculty, council members
	14th Annual Southern California Economic Summit	All staff, students, faculty, council members
	LTC Holiday Lunch Gathering	All staff, students, faculty, council members

**4. Personnel**

4.1. 2023 Advisory Council Member

Every three months the LTC’s advisory council comes together to discuss the research agenda, possible projects, and funding and gain their feedback and advice. Below are the members of the 2023 Advisory Council.

Member	Position	Affiliation
Carrie Gilbreth	Senior Partner	Westbound COMMUNICATIONS
Christopher Gray	Director of Transportation	WRCOG Western Riverside Council of Governments
Doran J. Barnes	Executive Director	Foothill Transit
Erin Rogers	CEO	OmniTrans
Garry Cohoe	Council Chair	Garry Cohoe, PE

Josh Landis	Planning Manager	Foothill Transit
Kenny Melancon	Professor and Department Head	San Bernardino Valley College
Kome Ajise	Executive Director	SCAG
Liza Wilson	Director	sanofi
Miguel Georgie	Cajon HS	Cajon HS
Mike Burrows	Executive Director	SBD International Airport
Otis Greer	Director of Legislative and Public Affairs	sb cta San Bernardino County Transportation Authority
Paul Granillo	President and CEO	IE Island Empire Economic Partnership
Ray Desselle	Deputy District Director of Planning	Caltrans
Rick Bishop	Professor of Electrical and Computer Engineering Director	UC RIVERSIDE UNIVERSITY OF CALIFORNIA
Sarah J. Jepson	Planning Director	SCAG
William “Bill” R. Leonard	Leonard Family representative. Capitol Commission volunteer. State Legislator 1978-2002; Board of Equalization 2003-2010, Secretary of State and Consumer Services 2010	

Frank Lin, Ph.D.	Professor, Information and Decision Sciences	
Kimberly Collins, Ph.D.	Executive Director and Professor of Public Administration	
Leslie Trainor	Research Fellow	
Robert Stokes, Ph.D.	Professor, Department Chair	
Tomás Gómez-Arias, Ph.D.	Dean, Jack H. Brown College of Business and Public Administration	
Yunfei Hou, Ph.D.	Associate Director and Assistant Professor Computer Science & Engineering	

#### 4.2. LTC Staff



Dr. Collins is the Executive Director of the William and Barbara Leonard Transportation Center and a Professor in the Public Administration Department. Her current research focuses on social equity, sustainability, networks, and democracy in search of developing 21st-century institutions to respond to the future. She currently is a Professor of Public Administration, serves on the Good Neighbor Environmental Board (a U.S. EPA Presidential Advisory Commission) in 2018, and is the North American Regional Editor for the Journal of Borderlands Studies.

**Kimberly Collins, PhD**



Dr. Hou is the Associate Director of the Leonard Transportation Center and Assistant Professor School of Computer Science and Engineering. He received his Ph.D. from the Department of Computer Science and Engineering, University of Buffalo, SUNY, in 2016. His current research interests include applications in transportation cyber-physical systems and data and information analysis for transportation engineering. Recent projects span intersection management with connected vehicle technologies, electric taxi-sharing, and taxi fleet dispatch.

**Yunfei Hou, PhD**



Dr. Raffi Der Wartanian is a research fellow specializing in transportation policy, data science, sustainability, and equity. His research endeavors at the Leonard Transportation Center at California State University, San Bernardino, his multifaceted research interests encompass the electrification of medium and heavy-duty vehicles, big data analytics in traffic and transportation modeling, geospatial analysis, and public policy.

**Raffi Der Wartanian, PhD**



Leslie L. Trainor, M.B.A., is an advanced doctoral student in Organizational Behavior at Claremont Graduate University and a Research Associate at LeAD Labs. Leslie researches women’s unique barriers to leadership and the structural systems that harbor those barriers. As part of her dissertations, Leslie has developed a unified definition of organizational structure and taxonomy of its systems, and is testing an organizational equity audit to identify and mitigate structural impediments for women who aspire to become leaders. Leslie is a lecturer at CSUSB’s JHBC. She currently works as independent research, writing, and analytical consultant, supporting nonprofits and government agencies in achieving their missions.

**Leslie L. Trainor, M.B.A**



Itzel Olguin is the Administrative Support Coordinator of the William and Barbara Leonard Transportation Center (LTC) at California State University, San Bernardino. Itzel completed her Bachelor of Arts in International Business from CSUSB in the Fall of 2017. As of May 2023, Itzel has transitioned into her current role at Leonard Transportation Center (LTC) marking a significant milestone in her career journey. Filled with enthusiasm and anticipation, she looks forward to embarking on new challenges and opportunities for personal and professional growth.

**Itzel A. Olguin**

LTC Student Assistants



Vaishnavi is an aspiring graduate student at CSUSB, majoring in Information Systems & Technology and holding a bachelor’s degree in computer applications. She contributes as a Student Assistant for LTC and handles the dialogue editing and content creation for our organization. She is inclined towards cyber security and her goal is to make significant contributions to the field of Cyber & Incident handling by applying her past experience in Critical Incident handling to drive progress in various industries.

**Vaishnavi Rode**



**Yasamin Rasouli**

I am Yasamin Rasouli, a 24-year-old from Iran. Five years ago, my family and I immigrated to the USA and have been residing in Orange County ever since. Currently, I am a junior student at Cal Poly Pomona, studying Civil Engineering. Last fall, I transferred from Saddleback College to continue my academic journey. I am passionate about shaping the built environment and look forward to making valuable contributions in the field of Civil Engineering.



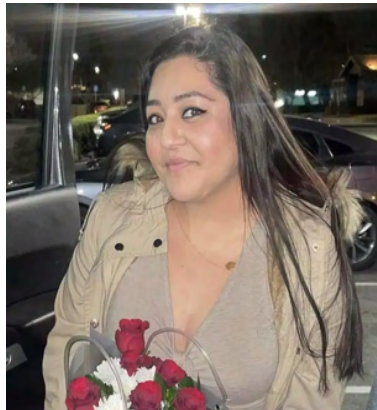
**Jordan Leffew**

I am Jordan Leffew, a first-generation college student born and raised in the San Fernando Valley. I recently earned my B.A. in Sociology from the University of California, Riverside, where I am also pursuing my M.A. in Public Policy. Utilizing my personal and lived experiences, I decided to take my advocacy work to the next level by pursuing a career in policy. I understood the importance of establishing equitable, effective, and sustainable policy solutions that could aid regions like the IE and its community members. “Solutions for the Region, Solutions for the World.” - UCR, School of Public Policy



**Dorlins Villalobos**

My name is Dorlins Villalobos, and I am a student-parent first-generation, non-traditional student. I returned to school in the fall of 2018 to pursue higher education, hoping for career options. At first, returning to school was just a means to an end. However, after the pandemic, I saw historical racial disparities within my community in Compton. I realized my community was disproportionately affected by the lack of meaningful public policy. My interest in public policy came from lived experience, and I decided that a master's degree would bring me closer to making a change for the benefit of my community. My purpose now is to play a role in helping our society be better for my son, my community, and our future.



Hey there! I'm Carolina Carlos, a first-generation college student with a dual bachelor's degree in Business Administration, specializing in Marketing, and Sports and Entertainment Marketing. I am also the student representative for the Association of Latino Faculty, Staff and Student (ALFSS). Currently, I'm pursuing my passion for making a difference in my community as a grad student in Public Administration, with a concentration in Leadership.

**Carolina Carlos**



Bhavik Khatri is an aspiring graduate student at CSUSB, majoring in Computer Science and holding a bachelor's degree in computer engineering. With a deep-rooted passion for software development and data science, he actively contributes as a research assistant at the LTC, focusing on transportation projects in the Inland Empire. Bhavik leverages his technical expertise to address real-world challenges in logistics and data analysis. He strives to continuously learn and stay updated with emerging technologies, aiming to make a significant societal impact through his contributions to ongoing research.

**Bhavik Khatri**



Sai Kalyan is a Master's in Computer Science student with a Bachelor's degree in Computer Engineering. Passionate about machine learning and data science, he works as a research assistant at the Leonard Transportation Centre. With a focus on leveraging cutting-edge technologies, he actively contributes to projects, collaborating with fellow researchers to develop innovative solutions and gain valuable insights from complex datasets. He stays updated with the latest advancements in the field and actively participates in conferences and workshops. His goal is to make significant contributions to computer science by applying his expertise in machine learning and data analysis to drive progress in various industries.

**Sai Kalyan Ayyagari**





Gabriel Lara is a graduate of CSUSB with a bachelor's degree in literature. After graduating, he was set on taking on new challenges. When he saw an opportunity to pursue employment outside of his field of study, he took it as an opportunity to apply some of the skills he gained from his literature Studies. After joining the LTC team, he has taken on the task of doing research on past, present, and future policy concerning heavy-duty and medium-duty vehicles on a federal, state, and local level. He has since used his research to create tables and graphs to help the rest of the team better grasp how the policy will be implemented into California vehicle standards.

**Gabriel Lara**



Ahmed Sahlem Burgos Nagi, an American of Colombian descent, spent 15 formative years in Colombia before returning to his homeland the US. During this time, he gained insights into various social classes and developed a deep appreciation for humanity. Ahmed is proficient in English, he looks forward to exploring diverse cultures and broadening his horizons. Pursuing a major in Philosophy with minors in Management & Social Change, Ahmed aspires to positively impact the world through his startup, WeilAI, an AI research company.

**Ahmed Sahlem Burgos Nagi**



Paul Sena is driven by a deep-seated ambition to effect positive change within his community, which fuels his unwavering commitment to the study of political science. His ultimate goal is to leverage his education and diverse experiences to enhance the well-being of the people he aims to represent and to contribute to broader improvement of the political environment.

**Paul Sena**

## 5. 2024 Plans

In the upcoming year, our commitment remains to advance sustainable transportation research and initiatives in the Inland Empire. At the forefront of our agenda is the strategic development and optimization of medium- and heavy-duty vehicle opportunity charging. This pivotal endeavor will concentrate on a policy analysis of the transition to zero-emission vehicles in the commercial market; pinpoint optimal locations and methodologies for establishing opportunity charging stations; and research the social equity factors for IE businesses and the community. Concurrently, we will conduct in-depth vehicle miles traveled (VMT) studies in specific cities within San Bernardino counties. The transition to VMT as an indicator to create more sustainable and climate-friendly urban environments will have an impact on the development of the region. The Center's research team will analyze travel behavior to provide possible solutions. The goals of our work are to contribute to the conversation of transportation equity and sustainability, while engaging students in research on the local transportation system and preparing them for careers where they can use the knowledge gained.

Finally, the Regional Mobility Dialogue Series will continue in 2024. We have six topics set for the year. We hope you will be able to join us.

February – Safeguarding Inland Empire's Public Transportation Networks: Challenges and Solutions for Transit Security

April -- Equity and Inclusivity in Transportation Funding: Bridging Gaps for the Inland Empire's Future Mobility

June -- Fueling the Future: Advancing Hydrogen Technology and Infrastructure in the Inland Empire

August -- Strategies for Strengthening the Inland Empire's Transportation Workforce

October -- The Interplay of Aviation and Ground Transportation in the Inland Empire's Goods Movement Sector

December -- How Does State Policy Shape the Transportation Landscape of the Inland Empire