

Transportation Symposium on Environment, Energy and Livable Communities

August 25-28, 2024

Denver, Colorado

Agenda (as of May 14, 2024)

Concurrent Sessions will be eligible for AICP Credits. Room locations provided in printed program available on-site.

Sunday, August 25, 2024

- 3:00pm** **Registration Opens**
- 4:00 PM -5:30 PM** **Committee Meetings (*open to all registered attendees*)**
- TRB Standing Committee on Resource Conservation and Recovery (AMS20)**
Chair: David Wilson, Virginia Department of Transportation
- The committee is concerned with innovative development and integration of proactive sustainability and resiliency concepts for improved transportation programs including: recycling and beneficial reuse of materials; contamination investigation and remediation technologies; pollution prevention and resource-efficiency; environmental management systems; energy harvesting; and alternative uses of transportation rights of way.
- 5:30 PM -7:30 PM** **Welcome Reception and Poster Session**
- Join your fellow attendees for a social event that will include a catered reception and discussions with select participants about their latest research in transportation environment, energy, and livable communities.
- Mathew Bruchon, National Renewable Energy Laboratory - *Characterizing National Travel Patterns, Local Electricity Loads, and Demand Flexibility for Electric Freight Vehicles*
 - John Bryant Cadiz, University of California, Davis - *The United States' Hydrogen Delivery Network: A Stochastic Dominance Approach to Evaluating Delivery Methods*
 - Kimberly Collins, California State University San Bernardino - *Moving Towards the Electrification of Medium- and Heavy-Duty Vehicles in the Inland Empire*
 - Maggie Dennis, J-PAL North America - *Building and Implementing a Research Agenda on Transportation Decarbonization*
 - Sue Dexter, University of Southern California - *Life Cycle Assessment of Heavy-duty Trucks: An Environmental Impact Study Comparing Alternative Fuels for Goods Movement*
 - David Gohlke, Argonne National Laboratory - *Future Cost Burdens and Distributions of Electric Vehicles*

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- Scott Hardman, University of California - Davis, *Identifying and Overcoming Barriers to ZEV Adoption in Disadvantaged Communities: Insights from Focus Groups and a California Survey*
- Tim Jonas, National Renewable Energy Laboratory – *Empowering Tomorrow: The electrification Potential of US School Bus Fleets*
- John Koupal, ERG - *Considering Brake and Tire Wear Pollution in the Context of Decarbonization Initiatives*
- Jia Li, Washington State University – *Nexus of Electric Vehicle Market, Emissions, and Lung Cancer in Different Communities: Evidence from Washington State*
- Wan Li, Oak Ridge National Laboratory - *An Agent-Based Model for U.S. Medium and Heavy-Duty Vehicle Market*
- Yanning Li, University of California, Davis - *Evaluating the Equity in Distribution Grid Access with California’s EV Expansion*
- Mohammad Mehdi Oshanreh, University of Washington, *Evaluating the Geographic Distribution of Public Electric Vehicle Charging Stations Focusing on Equity in King County, Washington*
- Shiqi (Shawn) Ou, South China University of Technology - *The Construction of Market Penetration Model and the Impact of Energy Policy in China’s Commercial Vehicle Sector*
- Aaron Rabinowitz, University of California, Davis - *The Impacts of DC Charger Network Structure and Operations on BEV Long Trip Accessibility*
- Anya Robinson, University of California, Davis - *Cars and Chargers in the Country: Rural PEV Owner Accounts of Charging and Travel in California*
- Jeffrey Wang, Argonne National Laboratory - *Innovative Charging Solutions for Deploying the National Charging Network: A Technoeconomic Analysis*
- Emily White, ICF – *Electric Vehicle (EV) Charging Infrastructure Data: Successes and Challenges in Understanding the State of the Country’s Infrastructure*
- Xiaodan Xu, Lawrence Berkeley National Laboratory – *Developing National-Scale Commercial Truck Fleet Composition in Emission Modeling Using 2021 US VIUS Data*
- Qiao Yu, University of California, Los Angeles - *California’s Zero-Emission Vehicle Adoption Brings Air Quality Benefits Yet Equity Gaps Persist*

Monday, August 26, 2024

7:30AM -8:30AM

Breakfast with Exhibitors

8:30AM – 10:00AM

Opening Plenary Session

Welcome provided by Symposium Co-Chairs Jane Lin, University of Illinois-Chicago, and Tim Sexton, Minneapolis Department of Public Works

- Keynote Address from H. Christopher Frey, Assistant Administrator, Office of Research and Development, U.S. Environmental Protection Agency

- Icebreaker Event

10:00AM-10:30AM **Break with Exhibitors**

10:30AM - Noon **First Set of Concurrent Sessions**

International Transportation and Economic Development & Land Use	Decarbonizing the Transport of People and Goods	Resource Conservation and Recovery
<p><u>The Impact of Sustainability and Climate Change on Economic Development and Land Use</u> <i>Moderated by Noreen McDonald, University of North Carolina and James Gillespie, Virginia Department of Transportation</i></p> <p>Climate change and severe environmental conditions are challenging all modes of transportation to meet present needs without compromising the needs of the future. This session explores how climate change is presently impacting transportation, economic development, and land use and the likely future impacts.</p> <ul style="list-style-type: none"> • David Abraham, Harris County Toll Road Authority – <i>Enhancing Equity in Developing Reliable Local Evacuation Routes during Flood Hazards</i> • Michael Lawrence, Jack Faucett Associates, Inc. - <i>Macroeconomic Impacts of Clean Energy Investments</i> • Narges Ahmadnia, University of Vermont – <i>The Potential of EVs and Avs to Reduce Housing Location Dissatisfaction and Implications on Travel Demand</i> • Christopher Hoehne, National Renewable Energy Laboratory – <i>Measuring Changes in Overall and Equitable Job Access by Transit Between 2019 to 2023</i> 	<p><u>Critical Issues in Electric Vehicle Infrastructure</u> <i>Moderated by Alan Jenn, University of California, Davis</i></p> <p>This session delves into the pressing concerns of Electric Vehicle (EV) infrastructure, focusing on key areas such as accessibility and availability of charging stations. We will scrutinize the reliability of EV charging networks and explore future deployment strategies, including their significance in multi-unit dwellings, rural regions, and other critical locations. Join us for an insightful discussion on shaping the future of EV infrastructure.</p> <ul style="list-style-type: none"> • Vaishnavi Karanam, University of California, Davis – <i>An Empirical Evaluation of Consumer-Facing Electric Vehicle Charging Reliability in California</i> • Eleftheria Kontou, University of Illinois, Urbana-Champaign – <i>Home Charging for All: Planning of Charging Hubs in Multi-Unit Dwellings</i> • Xinyi Wu, Argonne National Laboratory – <i>Unveiling the Geographical Variations of Electric Vehicles Charging Satisfaction in the United States</i> 	<p><u>The Lingering Impacts of Per- and Polyfluoroalkyl Substances (PFAS)</u> <i>Moderated by Ceki Halman, University of Missouri-Kansas</i></p> <p>Similar to other historic contaminants such as Polychlorinated Biphenyls (PCBs), asbestos and lead, PFAS are emerging contaminants that will define a generation. The surface-transportation and aviation industries are seeing, and will continue to see, PFAS-related impacts in projects and operations. This session will explore the latest legal, liability, policy, investigation, management, and remediation strategies to address PFAS impacts in the transportation sector.</p> <ul style="list-style-type: none"> • Megan Hart, University of Missouri-Kansas – <i>PFAS Absorption in Concrete Under Cyclic AFFF Exposure</i>

Noon - 1:00PM **Lunch**

1:00PM - 2:30PM Second Set of Concurrent Sessions

International Transportation and Economic Development & Land Use	Decarbonizing the Transport of People and Goods	Resource Conservation and Recovery
<p><u>Innovations and Technology Transforming Economic Development and Land Use</u> <i>Moderated by Rimon Rafia, Economikr and Kyle Schroeckenthaler, EBP</i></p> <p>Technological advancements, including electrification, alternate fuels, artificial intelligence, and intelligent transportation systems, are changing transportation. This session explores how technological innovations are changing transportation and their impact on the economy, environment, and society.</p> <ul style="list-style-type: none"> • Michael Lawrence, Jack Faucett Associates, Inc. – <i>Use of Public Private Partnerships (P3) for Delivery of Electric Vehicle Charging Infrastructure</i> • Clare Nelson, University of Vermont – <i>Can Smart Growth Reduce Vehicle Use? A Longitudinal Analysis of Household Vehicle Miles Travelled in Vermont</i> • Abigail Wheelis, National Renewable Energy Laboratory – <i>OpenPATH – Leveraging Technology to Measure Travel Behavior</i> • Bingrong Sun, National Renewable Energy Laboratory – <i>Increasing Electric Vehicle Adoption Among Disadvantaged Population: A Case Study in LA</i> • Angela Yun, University of California, Irvine – <i>Assessing the Charging as a Service (CaaS) Model for EV Charging Deployment in California</i> 	<p><u>Reducing Emissions from Long-Distance Transportation</u> <i>Moderated by Kanok Boriboonsomsin, University of California, Riverside</i></p> <p>Long-distance transportation—by road, rail, air, or waterway—consumes a large amount of energy while significantly contributing to both greenhouse gas and criteria pollutant emissions. This session will explore different ways to overcome the unique challenges in reducing emissions from the different modes of long-distance transportation.</p> <ul style="list-style-type: none"> • Dan Flynn, USDOT Volpe National Transportation Systems Center – <i>Applying the Maritime Energy, Noise and Emissions Model (MENEM) for U.S. Vessel Fuel Use Scenarios</i> • Laedon Kang, University of California, Davis – <i>Analysis of Clean Fuels for Aviation and Maritime Transport in the U.S. and E.U.</i> • Kyungsoo Jeong, National Renewable Energy Laboratory – <i>Modeling Framework for a Sustainable and Resilient Intermodal Freight System</i> • Rubal Dua, King Abdullah Petroleum Studies and Research Center (KAPSARC), <i>Emerging Policy and Economics Research Priorities for Enabling Alternative Fuels and Technologies in the Heavy-Duty Vehicle Sector</i> • Scott Morrisey, Denver International Airport 	<p><u>Sustainable Design and Technology</u> <i>Moderated by David Wilson, Virginia Department of Transportation</i></p> <p>Achieving sustainability objectives and goals in the transportation sector requires creative designs and technology. This session will explore some of the latest thoughts regarding current and futuristic means to achieve these goals.</p> <ul style="list-style-type: none"> • Laura Rogers, The Ray, and Mike Arellano, Texas Department of Transportation – <i>Two Shades of Green: Driving Economic Prosperity Through Environmentally Preferred Design in Transportation Infrastructure</i> • Samer Dessouky, University of Texas, San Antonio – <i>Exploring the Potential Use of Solar Films in Pedestrian Sidewalks</i> • Xinghui Zhao, Washington State University – <i>Understanding Environmental Impact of Transportation Systems Through Causal AI</i>

2:30PM – 3:00PM Break with Exhibitors

3:00PM – 4:30PM Third Set of Concurrent Sessions

International Transportation and Economic Development & Land Use	Decarbonizing the Transport of People and Goods	Resource Conservation and Recovery
<p><u>Diversity, Equity, and Inclusion Considerations with Economic Development and Land Use</u> <i>Moderated by Naomi Stein, EBP and Ed Starks, Federal Highway Administration</i></p> <p>Transportation policy and planning decisions have significant equity impacts: they affect the allocation of public resources, quality of life, economic opportunities, and uneven external costs. This session explores equitable transportation as it relates to economic development and land use.</p> <ul style="list-style-type: none"> • Cecilia Viggiano, EBP – <i>Access to Jobs, Economic Opportunities, and Education in Rural Areas</i> • Clare Nelson, University of Vermont – <i>Who’s Paying for the Roads? Evaluating the Equity of Transportation Funding Options Across Community Types and Income Groups</i> • Dana Al-Qadi, AECOM – <i>Equity Impacts of Transportation Decarbonization</i> • James Butler, University of California, Berkeley – <i>The Effect of 21st Century Medium- and Heavy-Duty Vehicle Emission Regulations in California on Fine Particulate Matter and Black Carbon Exposure Disparities by Race and Class</i> • Parsa Pezeshknejad, University of Vermont, <i>Advancing Equitable Electric Vehicle Adoption: Addressing Home Charging Barriers and costs</i> 	<p><u>Hydrogen Hubs</u> <i>Moderated by Lew Fulton, University of California, Davis</i></p> <p>The U.S. Department of Energy is kicking off a new Hydrogen Hub program this year. This session will discuss where the program is going, what particular hubs are being planned, and what potential exists for hydrogen use in various transportation markets. Specifically, impacts on vehicle sales, fuel systems and costs, other sectors such as airports, as well as the overall environmental impacts will be discussed along with recommendations for best practice approaches for the hubs to take.</p> <ul style="list-style-type: none"> • Alicia Birky, National Renewable Energy Laboratory – <i>Leveraging Vehicle Consumer Choice Modeling to Project the Market Viability of Gaseous and Liquid Hydrogen Powertrains for the Tractor-Trailer Sector in Europe</i> • Stephanie Kong, ICF Incorporated, LLC – <i>Assess the Battery-Recharging and Hydrogen-Refueling Infrastructure Needs, Costs and Timelines Required to Support Regulatory Requirements for Light-, Medium-, and Heavy-Duty Zero-Emission Vehicles</i> • Andrew Kotz, National Renewable Energy Laboratory – <i>Potential for Decarbonizing Drayage Operation Using Hydrogen Fuel Cell Technology</i> • Laura Restrepo, University of California, Davis – <i>Analysis of Hydrogen and Diesel Emissions in Heavy-Duty Transportation: A 2030 Perspective for California and Texas</i> • Jason Smeak, AECOM – <i>Development of a U.S. Hydrogen Economy Centered on Transportation Infrastructure and New Energy Transition Clusters</i> 	<p><u>Recycling and Reuse of Resources, Waste and Industrial By-products and Lands</u> <i>Moderated by Samer Dessouky, University of Texas, San Antonio</i></p> <p>Recycling and reuse of waste materials and resources are a few of the strategies transportation systems can use to save resources and achieve waste reduction and sustainability goals. This session will evaluate some of the approaches, materials, and policies transportation agencies have used to successfully reuse and recycle resources and waste products in their projects and operations.</p> <ul style="list-style-type: none"> • Steven Eget, WSP USA Inc., Angelo Elmi, MTA, and Frank Urilov, WSP, <i>Decarbonizing Infrastructure Projects</i> • Xianming Shi, Washington State University – <i>Recycled Mask Polypropylene Microfibers Benefit Tensile Properties and Prevent Thermally Induced Spalling of High-Strength Engineered Cementitious Composite</i> • Sara Post, University of Minnesota-Duluth – <i>High-Friction Surface Treatment Using Taconite Tailings</i>

4:30PM – 5:00PM Break

5:00PM – 6:30PM

Committee Meetings (*open to all registered attendees*)

Joint Meeting of the TRB Standing Committees on Economic Development and Land Use (AMS50) and Economics and Finance (AJE50)

AMS50 Co-Chairs: Michael Lawrence, Jack Faucett Associates, Inc.; and Noreen McDonald, University of North Carolina, Chapel Hill

The Committee focuses on the impacts of transportation on the economy, environment, and society. It is concerned with efficient, effective, and equitable transportation systems that promote competitive advantage, economic resiliency, and sustainability for our cities, regions, and societies. This committee provides a cross-cutting forum for practitioners and researchers to understand the interrelationship between transportation, economic development and the economy, and land use, and the policies and management approaches required to create sustainable growth at national, regional, and local scales.

AJE50 Chair: Nathan Macek, HDR

The Committee is concerned with advancing economic and financial concepts, methods, and tools that can be applied to the analysis of transportation programs, policies, systems, and infrastructure investment. Key focus areas include the measurement of economic benefits and impacts; financial forecasting and planning; assessment of infrastructure funding needs; traditional and alternative revenue sources and financing mechanisms; innovations in project financing and delivery; and fiscal management.

- Naomi Stein, EBP – *Transit System Value Tool – Building a Statewide Tool for Michigan DOT and its Agency Partners*
- Hermanus Steyn, Kittleston and Associates, Inc. - *NCHRP Project # 20-123 (08) Assessment of the American Association of State Highway and Transportation Officials (AASHTO) User and Non-User Benefit Analysis for Highways, 3rd Edition (Red Book)*

Joint Meeting of the TRB Standing Committees on Transportation Energy (AMS30) and Alternative Fuels and Technologies (AMS40)

AMS30 Chair: Alan Jenn, University of California, Davis

To consider factors that affect energy efficiency and energy use in passenger and freight transportation and the resulting impacts on energy consumption, energy security, greenhouse gas emissions, and related public concerns.

AMS40 Chair: Rachael Nealer, U.S. Department of Energy

To consider institutional, behavioral, environmental, economic, technological and policy implications associated with the introduction and potential extended use of alternative transportation fuels and enabling technologies, and promote policy analysis, evaluation and planning to address those implications.

- Yue Ke, Argonne National Laboratory – *What is the Impact of BEV Investments and Jobs in the U.S?*

6:30PM

Adjourn

Tuesday, August 27, 2024

7:30AM-8:30AM **Breakfast with Exhibitors**

8:30AM– 10:00AM **Plenary Session**

Moderated by Symposium Co-Chairs Jane Lin, University of Illinois-Chicago, and Tim Sexton, Minneapolis Department of Public Works

- Keynote Address from John Putnam, Senior Advisor, Colorado Department of Transportation
- Panel Discussion with TRB Standing Committee Leadership
 - Kate Andrus, Mead & Hunt
 - Marianne Hatzopoulou, University of Toronto
 - Alan Jenn, University of California, Davis
 - Michael Lawrence, Jack Faucett Associates, Inc.
 - Nathan Macek, HDR
 - Noreen McDonald, University of North Carolina, Chapel Hill
 - Rachael Nealer, U.S. Department of Energy
 - David Wilson, Virginia Department of Transportation

10:00AM - 10:30AM **Break with Exhibitors**

10:30AM - Noon **Fourth Set of Concurrent Sessions**

International Transportation and Economic Development & Land Use	Decarbonizing the Transport of People and Goods	Resource Conservation and Recovery
<p><u>Influence of Changing Work and Lifestyle on Economic Development and Land Use</u> <i>Moderated by Peter Ogonowski, HDR and Bob Ginsburg, Center on Work and Community Development</i></p> <p>Society is changing how we live, work, and play. Remote work and an aging workforce are just some of the factors influencing transportation and its relationship with economic development and land use. This session will explore various aspects of these emerging forces on the transportation system.</p> <ul style="list-style-type: none"> • Kyungsoo Jeong, National Renewable Energy Laboratory - <i>Assessing the Quality of Online Shopping Influenced by Emerging Mobility Solutions from a Consumer's Perspective</i> 	<p><u>Powering the Future: Innovative Integration of Electric Vehicles the Grid</u> <i>Moderated by Jing Dong-O'Brien, Iowa State University</i></p> <p>In this session, innovative interactions between Electric Vehicles (EVs) and Grid Systems and investigate their social, economic, and environmental impacts will be explored. These cutting-edge technologies and innovations shaping the intersection of clean transportation and smart grid solutions, such as monetization of grid reliability, will be discussed along with how these advancements are paving the way for a sustainable and interconnected transportation future from the aspects in economics, energy, and environment.</p> <ul style="list-style-type: none"> • Nadia El Mallakh, EV Working Group – <i>Managed Charging: Benefiting the Grid and Customers</i> 	<p><u>Emerging Contaminants</u> <i>Moderated by Sara Post, University of Minnesota-Duluth</i></p> <p>The highway, transit, and aviation sectors are well versed at addressing impacts related to historic contamination. In addition to per- and polyfluoralkyl substances (PFAS), this session will look at what additional emerging contaminants, such as an organic chemical used in rubber tires (6PPD) and microplastics, are on the horizon that may impact future projects and operations and what are some of the strategies to address the impacts in the most efficient manner the strategies to address the impacts in the most efficient manner.</p> <ul style="list-style-type: none"> • Richard Baldauf, U.S. Environmental Protection Agency – <i>Current and Emerging Issues Related to</i>

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<ul style="list-style-type: none"> Mei Yang, Texas State University - <i>Neighborhood Walkability and Cardiometabolic Disease in Texas</i> 	<ul style="list-style-type: none"> Wilson H. McNeil, Lawrence Berkeley National Laboratory – <i>Corridor-Level Impacts of Battery-Electric Heavy-Duty Trucks and the Effects of Policy in the U.S.</i> Hanif Tayarani, University of California, Davis – <i>Revolutionizing the Vehicle Grid Integration: A Novel Approach to Estimate the V2G Capacity of Battery Electric Vehicles</i> Zhenhong Lin, South China University of Technology – <i>Optimal Planning of Residential Buildings Coupling Photovoltaic, Batter Energy Storage, Virtual Energy Storage, and Vehicle-to-Grid Technology</i> Nicholas Williams, University of Texas at San Antonio, <i>Optimization of EV Charging Infrastructure for Grid Management</i> 	<p><i>Motor Vehicle Tire and Brake Wear Non-Exhaust Emissions</i></p> <ul style="list-style-type: none"> Michael Durante, Washington State University – <i>CDR Solutions for Transportation Systems Using Road and Airfield Surface Photocatalysis</i> Taiwo Akinleye, Pavement Technology Inc. – <i>Exploring the Use of an Engineered Biochar for 6PPD-q Adsorption in Roadside Soils: A Preliminary Study</i>
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Noon - 1:00PM

Lunch

1:00PM - 2:30PM

Fifth Set of Concurrent Sessions

International Transportation and Economic Development & Land Use	Decarbonizing the Transport of People and Goods	Resource Conservation and Recovery
<p><u>Exploring Financing and Fiscal Impact Across All Modes</u> <i>Moderated by Michael Lawrence, Jack Faucett Associates, Inc. and Binyam Reja, World Bank</i></p> <p>Transportation infrastructure and operations require extensive public and private investment in financial resources. This is a worldwide issue. In the U.S., new Legislation has made billions of federal grant dollars available to states and communities to improve transportation infrastructure, invest in clean energy technologies, establish an electric vehicle charging infrastructure network, and other opportunities. This session explores the financing of transportation across all modes.</p> <ul style="list-style-type: none"> Yunping Liang, University of Nebraska, Lincoln – <i>Funding Transportation Projects via the Investing in Canada Plan – An Empirical Analysis on the</i> 	<p><u>Evaluating and Advancing the Equity of Electric Vehicle Adoption</u> <i>Moderated by Brett Williams, Center for Sustainable Energy</i></p> <p>As electric vehicle adoption grows and aggressive goals and regulations are put in place to drive it toward high levels, the focus of government is shifting to questions of equity. Who will benefit and when during the transition? What role can incentives and other supportive measures play in accelerating equitable access to EVs by disadvantaged and rural consumers? This session will examine efforts to measure the equity of EVs and EV incentives and explore findings that inform equitable program design and implementation.</p> <ul style="list-style-type: none"> Kelly Crawford, U.S. Department of Energy Meg Fay, University of Vermont, <i>Evaluating Cumulative Emissions Exposure and Equity Outcomes</i> 	<p><u>Recycling and Reuse of Resources, Waste and Industrial By-products and Lands</u> <i>Moderated by Xianming Shi, Washington State University</i></p> <p>Recycling and reuse of waste materials and resources are a few of the strategies transportation systems can use to save resources and achieve waste reduction and sustainability goals. This session will evaluate some of the approaches, materials, and policies transportation agencies have used to successfully reuse and recycle resources and waste products in their projects and operations.</p> <ul style="list-style-type: none"> Jeff Fisher, WSSI – <i>Success in Redevelopment to Protect Federally Endangered Species</i> Noel Simmons, ESC Mid-Atlantic – <i>Approach and Evaluation of a Proposed Road Over a DOD Superfund Landfill</i>

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<p><i>Implementation through a Balanced Regional Development Perspective</i></p>	<p><i>of Different Transition Pathways to an Electric Vehicle Fleet</i></p> <ul style="list-style-type: none"> • Kelly Hoogland, University of California, Davis – <i>What Policy Interventions are Moving the Needle of Electric Vehicle purchase Consideration Amongst Priority Populations?</i> • Jaye Mejia-Duwan, University of California, Berkeley – <i>Emissions Redistribution and Environmental Justice Implications of California’s Clean Vehicle Rebate Project</i> 	<ul style="list-style-type: none"> • Angela Farina, Michigan State University – <i>Recycling of Tire Rubber in Asphalt</i>
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2:30PM – 3:00PM

Break with Exhibitors

3:00PM – 4:30PM

Sixth Set of Concurrent Sessions

International Transportation and Economic Development & Land Use	Decarbonizing the Transport of People and Goods	Resource Conservation and Recovery
<p><u>Rural and Underserved Communities Context for Economic Development and Land Use Moderated by Jason Wang, Appalachian Regional Commission and Carrie Kassel, National Association of Development Organization (NADO)</u></p> <p>Transportation can have significant positive and negative impacts on rural and underserved communities. This session will explore the different approaches to achieving efficient, effective, and equitable transportation in the context of non-urban and disadvantaged communities.</p> <ul style="list-style-type: none"> • Dan Hodge, Cambridge Econometrics – <i>Network Appalachia: Freight, Trade and Economic Development</i> • Harry Schukei, University of Vermont – <i>The Case for Rethinking Rural: How Simplification of Rural Places Clouds Our Understanding of Sustainable Rural Travel Behavior</i> • James Gillespie, Virginia Department of Transportation – <i>Skeet Shooting with a Mortar: Targeting Transport Investment to Priority Neighborhoods</i> 	<p><u>Decarbonizing Emerging Mobility Systems Moderated by Georges Bou-Saab, Texas A&M University</u></p> <p>We are in an age where mobility systems are in the process of evolution due to the advancements in the connectivity, automation, electrification and sharing concepts. This session will focus on decarbonizing the emerging ground and air mobility systems for people and goods movement with the focus on all modalities including last/first mile, on-demand, delivery, long/line haul and advanced air mobility systems.</p> <ul style="list-style-type: none"> • Jennifer Zavon, Forth Mobility – <i>EV Carsharing: Advancing Equitable Access to Electric Vehicles</i> • Nawaf Nazir, Pacific Northwest National Laboratory – <i>Curb Management Tools for Improving Efficiency and Reducing Traffic Congestion in Urban Areas</i> • Sajad Askari, University of Illinois, Chicago – <i>Assessing How the Built Environment Shapes the Benefits of Shared E-Bikes</i> • Chris Porter, Cambridge Systematics – <i>Evaluating Emission Reduction Benefits of Transportation and Land Use Strategies</i> 	<p><u>Salt – Deicing Alternatives Research and Impact Evaluation and Remediation Moderated by Megan Hart, University of Missouri-Kansas</u></p> <p>Salt continues to garner attention due to environmental impacts related to chloride concentration increases in surface and ground water as well as corrosion-related infrastructure impacts. During this session we will look at the latest in alternative deicer research as well as the techniques to evaluate and remediate salt impacts.</p> <ul style="list-style-type: none"> • David Reeves, Colorado Department of Transportation – <i>Colorado Highway Winter Maintenance Research Synthesis: Minimizing Environmental Impact Over the Last Decade</i> • Sarvenaz Sobhansarbandi, University of Missouri-Kansas – <i>Retrofit, Self-Contained, and Smart Solar Ice Control System for Resilient Infrastructure</i>

<ul style="list-style-type: none"> Minal Chandra, University of California, Davis – <i>Evaluating ZEV Ownership in Underserved Communities in California</i> 	<ul style="list-style-type: none"> Yantao Huang, Argonne National Laboratory – <i>Fleet Electrification for Ride-Sharing Services: An Analysis of Energy and Emissions</i> 	
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4:30PM **Adjourn**

5:00PM – 6:30PM **Optional Associated-Group Meeting: Charting a Path Forward to Address the Challenges of Sustainable Rural Mobility**

Researchers from the National Center for Sustainable Transportation (NCST) invite all conference participants to meet and discuss the challenges of sustainable rural mobility and identify critical research gaps. The purpose of the meeting is to collect information for the planning of a national meeting on sustainable rural mobility that will be sponsored by NCST within the next year. Meeting participants will have an opportunity to share information on rural mobility and sustainability challenges, research ideas and volunteer to help develop the conference program. Please contact Dr. Greg Rowangould at gregory.rowangould@uvm.edu if you have any questions about the meeting.

Wednesday, August 28, 2024

7:30AM - 8:30AM **Breakfast with Exhibitors**

8:30AM – 10:00AM **Seventh Set of Concurrent Sessions**

International Transportation and Economic Development & Land Use	Decarbonizing the Transport of People and Goods	Resource Conservation and Recovery
<p><u>Interaction of Moving Freight with Economic Development and Land Use</u> <i>Moderated by Chad Miller, University of Southern Mississippi and Stefan Natzke, Federal Highway Administration</i></p> <p>The physical process of transporting commodities, merchandise goods, and cargo has a significant impact on economic development and land use and, in turn, influences economic development and land use. This session will explore across the modes how freight movement interacts with economic development and land use efficiency, effectiveness, and equity.</p> <ul style="list-style-type: none"> Bethany Stich, University of New Orleans – <i>Examining Transportation and International Trade Policy Dynamics Through the Advocacy Coalition</i> 	<p><u>Decarbonizing Transportation through Land Use, Housing, Transit and Active Transportation</u> <i>Moderated by Annalisa Schilla, California Air Resources Board</i></p> <p>Prioritizing investments in active transportation and transit, and effectively integrating transportation and land use planning, can yield significant environmental and equity benefits. Several states are pursuing these strategies to reduce emissions and vehicle miles traveled and to improve transportation equity. This session will explore challenges and opportunities in implementing investments in transit and active transportation and “land use/housing as a climate strategy” policies.</p> <ul style="list-style-type: none"> Michael Reilly, EConorthwest – <i>Forecasting Land Use Policy Impacts on Greenhouse Gas Emissions</i> 	<p><u>Stormwater Management Best Practices</u> <i>Moderated by Laura Rogers, The Ray</i></p> <p>This session provides an opportunity to highlight the latest approaches related to climate change impacts and resiliency strategies including but not limited to impacts on contaminant migration, updated design guidance, nature-based solutions, green infrastructure, etc.</p> <ul style="list-style-type: none"> Andrea Gardiner, Tennessee State University – <i>Evaluation of Green Infrastructure as a Means to Mitigate Increase Stormwater Volumes in Disadvantaged Communities</i> Megan Hart, University of Missouri-Kansas City – <i>The Impact of De-icing Salt Runoff on Bioretention Basins: Kansas City Case Story</i>

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<p><i>Framework: A Case Study of the Lower Mississippi River Ports</i></p> <ul style="list-style-type: none"> • Jeff Purdy, Federal Highway Administration – <i>Freight and Land Use Handbook: Steps to Mitigate Inverse Impacts and Create Economic Development Opportunities</i> • José Miguel Acosta Córdova, University of Illinois at Urbana Champaign – <i>Quantifying Neighborhood Truck Traffic in Chicago and Why Electrification Should be Concentrated in Environmental Justice Community</i> • Bryan Jungers, E Source, <i>Utilities and Fleets: Managing an Essential Partnership</i> 	<p><i>from Residential Building Operations and Daily Travel Behavior in Colorado</i></p> <ul style="list-style-type: none"> • Christopher Hoehne, National Renewable Energy Laboratory – <i>What is the Role of Convenience Strategies and Travel Demand Management in Meeting National Decarbonization Goals?</i> • Cristian Poliziani, Lawrence Berkeley National Laboratory – <i>Multi-Dimensional Equity Assessment for Travel and Traffic Interventions using a High-Resolution, Large-Scale Agent-Based Transport Model</i> • Elisa Barbor, University of California, Davis – <i>Lessons Learned from Implementation of Senate Bill 375: California’s Experiment with Integrated Regional Planning for Transportation and Land Use</i> 	<ul style="list-style-type: none"> • Rayeed Ahmed, Washington State University – <i>Investigating the Removal of Tire and Road Wear Particles (TRWP) and 6-ppd-quinone by Road Shoulders using Column Filtration Experiments</i>
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10:00AM – 10:30AM Break with Exhibitors

10:30AM - Noon Eighth Set of Concurrent Sessions and Committee Meetings

International Transportation and Economic Development & Land Use	Decarbonizing the Transport of People and Goods	Resource Conservation and Recovery
<p><u>Pre- and Post-Project Analysis of Economic Development and Land Use Outcomes</u> <i>Moderated by Chris Williges, HDR</i></p> <p>Efficient, effective, and equitable transportation policy and planning decisions require an understanding of anticipated impacts on economic development, land use, and finances. This session will provide cases, methodologies, and overviews of best practices for ex-ante and ex-post analyses of transportation projects.</p> <ul style="list-style-type: none"> • Dan Hodge, Cambridge Econometrics – <i>Economic Benefits of Complete Streets Investments in Massachusetts</i> • Brett Piercy, EBP, Inc. – <i>Advancing U.S. Post-Project Analysis Best Practices Through Expansion of EconWorks Database</i> 	<p>Meeting of the TRB Standing Committee on Air Quality and Greenhouse Gas Mitigation (AMS10)</p> <p><i>Chair: Marianne Hatzopoulou, University of Toronto</i></p> <p>The committee is concerned with the full range of relationships among transportation, air quality, and greenhouse gas mitigation including regulatory and policy considerations, modeling practices, health effects, new technologies, and transportation management strategies.</p> <ul style="list-style-type: none"> • Yi-Ling Cheng, University of Illinois, Chicago – <i>On-Road Heavy-Duty Truck Emissions in Illinois Before and After COVID-19 in 2019 and 2021</i> • Shivam Sharda, National Renewable Energy Laboratory – <i>Fueling the Debate of Miles and Modes: The Dichotomy of Gasoline and Electric Vehicles in Household</i> 	<p><u>Recycling and Reuse of Resources, Waste and Industrial By-products and Lands</u> <i>Moderated by Angela Farina, Michigan State University</i></p> <p>Recycling and reuse of waste materials and resources are a few of the strategies transportation systems can use to save resources and achieve waste reduction and sustainability goals. This session will evaluate some of the approaches, materials, and policies transportation agencies have used to successfully reuse and recycle resources and waste products in their projects and operations.</p> <ul style="list-style-type: none"> • Charles Stebbins, Dewberry Engineers Inc. – <i>Beneficial Use of RGA on Large Highway Interchange Project in Northern NJ/NJDEP Linear Construction</i> • Francisco Pares, University of California, Davis – <i>Trade, Extended Use, and End of Life in the Global South: An Expanded EV Life Cycle Assessment</i>

 TRANSPORTATION RESEARCH BOARD

<ul style="list-style-type: none">• Michael Lawrence, Jack Faucett Associates, Inc. – <i>The Effect of Interstate Construction on Residential Land Values: A StoryMap Presentation</i>• Nino Pkhikidize, World Bank – <i>Connectivity, Road Quality and Jobs: Evidence from Armenia</i>		<ul style="list-style-type: none">• Xianming Shi, Washington State University – <i>Nano-Modified Fly Ash-Based Geopolymer Concrete Filled Carbon Fiber-Reinforced Plastic Tube Composite</i>
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Noon – 1:00PM *Lunch*

TECHNICAL PROGRAM CONCLUDES

12:30PM-5:00pm [Optional Tour](#) *(must be registered separately)*