PacTrans Region 10 Conference

Agenda as of October 8, 2025. Subject to change.

Speaker bios appear at the end of this document.

Registration and Breakfast (7:30 AM) Ballroom

Welcome (8:15–8:30) Ballroom

Yinhai Wang, Ph.D., University of Washington
Director, PacTrans

Jennifer Dill, Ph.D., TREC at Portland State University
Chair, PacTrans Conference Planning Committee

Opening plenary (8:30–9:10) Ballroom

Transport Truths for Linking Research and Practice

Greg P. Griffin, Ph.D.
Professor of Practice, University of Texas at San Antonio
Principal Research Analyst, Oregon Dept. of Transportation

Transport futures are always uncertain. Researchers and practitioners nonetheless are responsible for building knowledge and delivering projects that aim toward common goals. This talk explores how critical realism can help uncover layered truths in transport planning. Through case studies in The Gambia and Austin, it shows how blending qualitative and quantitative insights reveals deeper impacts and supports more honest, inclusive communication of findings.

Break (9:10–9:30)

Concurrent sessions (9:30–10:40)

Track 1: Smart Mobility Analytics
Data Analytics for Improved Active Mobility

Moderator: Kevin Chang, Ph.D., University of Idaho

Increased Role of Safety and Volume Data in the Walk-Bike Clackamas Plan
Joseph Marek, PE, PTOE, Clackamas County
While developing the Walk-Bike Clackamas Plan, one component involved examining crashes in both urban and rural areas of Clackamas County that involved pedestrians and cyclists. The large 1,400-mile road network is a challenge to maintain so expenditures need to be effective. Using a few data tools helped the County Traffic Engineering Team provide critical data used for projects and safety countermeasure selection considered by the plan.

Evaluating YOLOv5–v11 for Real-Time Pedestrian and Bicycle Detection in Video Data
Banafsheh Rekabdar, PhD., Portland State University
We evaluate YOLOv5, YOLOv8, and YOLOv11 models for detecting pedestrians and bicycles in video data. YOLOv11 showed the best performance. Our results show that modern object detectors can reliably support mobility planning and real-time monitoring of vulnerable road users.

Training Open-Source Computer Vision to Monitor Bicycle and Motorcycle Delivery Traffic
Michael Lowry, PhD., University of Idaho
This study trains an open-source computer vision model to monitor bicycle and motorcycle delivery traffic in Santiago, Chile. Using 200 hours of CCTV footage from 30 sites, we analyze spatial and temporal variation in delivery traffic volume. The presentation highlights the training process and practical steps for cost-effective, scalable traffic monitoring without proprietary sensors.

Track 2: Human-Centered Mobility
Engaging Communities in Transportation Planning: The Role of AI and Technology

Moderator: Brandy Steffen, JLA

Reshaping the Toolset for Public Engagement in Transportation Planning with Large Language Models
Antonie Jetter, Ph.D., Ameeta Agrawal, Sowmini Sengupta, Yufei Tao, Kathi Inman Berens, Portland State University
Large Language Models can discover patterns in large-scale qualitative data, such as stakeholder comments, synthesize and narrate insights from the data, and engage with users in interactive formats, such as via question and answering systems. In the future, this may provide approaches to public engagement that yield more accessible and human-centric planning practice. We report on a series of foundational experiments to explore current limitations and opportunities of the technology.

AI: An emerging tool in the Public Engagement Toolbox
Jessica Pickul, JLA Public Involvement
AI can be a powerful tool for a variety of public engagement tasks, adding efficiency dealing with large amounts of data or content, filling gaps by extending research capacity, and illustrating project concepts to help people understand and engage. On the flipside, AI often misses local context, language and values – all fundamental parts to getting right when engaging the public. In a time when government authenticity and trust is on shaky ground, it's getting these small, but incredibly important human-centered details right that can make or break a project. Jessica will share some instances when AI can strengthen an engagement approach and consider times when the people-side of this work simply can't be replaced.

3D Visualizations Change the Conversation
Wende Wilber, Kittelson & Associates
Most people can't read engineering drawings or even begin to "visualize" what a project might look like when it's constructed, yet we expect them to provide meaningful input on multi-modal design concepts. Through the creation of realistic renderings, designers, planners, clients, and the public are all able to "see" the same thing. Several case studies will be presented that show how 3D visualizations changed the conversation around controversial projects including a small roundabout in Montana and a pedestrian crossing in Alaska.

Track 3: Innovations for Infrastructure Resilience
Adapting to Extremes: Enhancing Resilience in Arctic and Disaster-Prone Regions

Moderator: Haifang Wen, Ph.D. Washington State University

Degrading Warm Permafrost Impact on Transportation Infrastructure in Arctic Regions
Utpal Dutta, Ph.D., University of Alaska Anchorage
Permafrost degradation, driven temperatures and intensified surface disturbances, is fundamentally altering subsurface thermal regimes and the mechanical behavior of soils. Such transformations influence seismic wave propagation and, consequently, the seismic hazards associated with infrastructure located on permafrost terrain. This study develops and applies a systematic framework to quantify the impact of thawing permafrost on seismic site response using one-dimensional equivalent linear analyses. Northway Airport, Alaska serves as the case study site.

Mobility and Accessibility Resilience of Transportation Infrastructure to Natural Disasters
Osama Abaza, Ph.D., University of Alaska Anchorage
Alaska's transportation system is highly vulnerable to seismic hazards such as bridge collapse, liquefaction, and rockfall. This project develops a GIS-based framework to model how these hazards disrupt mobility and accessibility in Southcentral Alaska. Case studies assess impacts on hospitals, fire stations, and evacuation routes, with results guiding agencies in prioritizing resilient infrastructure, improving emergency access, and ensuring disaster-ready mobility.

WSDOT's Resilience: Adapting to Changes
Carol Lee Roalkvam, Washington Department of Transportation (retired)
Washington State DOT considers extreme weather events and other natural hazards in the planning, design, and operation of state-owned multimodal infrastructure. This presentation will provide an overview WSDOT's current efforts including the preparation of a transportation resilience improvement plan. It will feature WSDOT's successes using nature-based solutions in project design and integrating resilience across the agency.

Break (10:40-11:00 AM)

Concurrent sessions (11:00 AM -12:10 PM)

Track 1: Smart Mobility Analytics
Autonomous Mobility: Applications and Control

Moderator: Jason Spencer, Sierra Transportation Technologies

Supporting Deep Learning Based Autonomous Driving
Xinghui Zhao, Washington State University
With recent advances in computing and sensing technologies, autonomous driving has gained increasing interest and become a promising platform to support the next generation of intelligent transportation systems. A critical requirement for autonomous driving systems is to be able to utilize AI and machine learning techniques to make reliable decisions on edge devices in a timely manner. In this talk, we present a comprehensive study on utilizing deep learning optimization techniques to enable efficient and effective decision-making for autonomous driving applications

Emergence of collective rationality in mixed autonomous driving systems: evidence from data and simulation experiments
Jia Li, Washington State University
Cooperation is ubiquitous in socio-technical systems. A natural question is whether it can arise spontaneously in mixed autonomous driving environments. This talk offers evidence supporting an affirmative answer. Empirically, we introduce a novel identification framework and quantify collective cooperativeness from naturalistic trajectory data. In simulation experiments, agents trained with deep reinforcement learning exhibit cooperative behaviors consistent with theoretical predictions.

AI's role in the evolution of emergency vehicle preemption
Shane Burbridge, Sierra Transportation Technologies

Track 2: Human-Centered Mobility
Expanding Mobility for All

Moderator: John MacArthur, TREC at Portland State University

Vehicle Miles Traveled and its Spatial Patterns
Lingzi Wu, Ph.D., University of Washington
We introduce a new VMT measure as a metric capturing the proportion of total miles driven by new types of vehicles by energy source. Using 2023 Seattle survey data, we mapped VMT at the census-tract level. Results show strong spatial disparities and findings stress the need for context-specific planning beyond adoption counts.

Evaluating the Impact of Purchase Incentives on Vehicle Travel via a Randomized Rebate Program
Rubina Singh, University of Washington
This study evaluates the impact of a state rebate program on vehicle travel. The program offered $1200 and $300 rebates to applicants, with recipients randomly selected. Leveraging this randomized assignment, we estimate the causal effects of both receiving a rebate offer and purchasing a bicycle on daily vehicle miles traveled.

The Future is Shared: Innovation and Access in Carsharing
Cat Plein, Forth
Many communities lack access to safe, reliable, economical, and clean transportation. Carsharing can lead to new economic opportunities and bolster existing options. Forth has developed and tested a variety of carshare programs, with the goal to identify and understand the best practices and challenges associated with implementing these programs in underserved locations. This presentation shares what we learned from operating these programs and provides a framework to guide others in designing carshare programs.

Track 3: Innovations for Infrastructure Resilience
From Grid to Gravel: Building Resilient Mobility

Moderator: Osama Abaza, Ph.D., University of Alaska, Anchorage

Emergency Transportation Routes for Disaster Planning and Transportation Resilience
Carol Chang, Regional Disaster Preparedness Organization (RDPO), City of Portland
John Mermin, Oregon Metro
Disasters can happen anytime, and the transportation system must be ready to withstand them and support lifesaving and life-sustaining activities. The Emergency Transportation Routes project was initially identified in Metro's 2018 Regional Transportation Plan as a needed step to integrate transportation with planning for resiliency, recovery, and emergency response. In the Portland area, emergency transportation routes are a

critical element of emergency preparedness and transportation resilience. This project is co-managed by the Regional Disaster Preparedness Organization and Metro.

Data Needs Analysis for Resilient Multimodal Rural Freight Corridors
Ahmed Ibrahim, Ph.D., University of Idaho
The main objective of this research is to review the resilience of multimodal freight networks under various disruptions, both natural and manmade. We seek to achieve this through a series of interconnected objectives: 1) Establishing a clear understanding of multimodal freight transportation network resilience by synthesizing diverse definitions from the literature; 2) exploring models employed in simulating multimodal freight network resilience, including emerging trends and best practices; 3) identifying indexes and metrics used for assessing resilience; and 4) categorizing and analyzing the types of disruptions studied in relation to multimodal freight transportation networks, from natural disasters to human-made acts.

Building the Future: Strategies for Resilient Transportation Infrastructure
Akmal Durrani, Washington State DOT
Our infrastructure is subject to disruptions, especially as it has aged. With emphasis on aging assets and insufficient funding for maintenance, preservation and rehabilitation, this presentation covers key strategies for resilient transportation infrastructure to ensure that these systems can adapt to changing conditions and recover rapidly from disruptions, including prioritizing risk-based asset management, incorporating robust and adaptable design, leveraging technology for predictive maintenance, and fostering redundancy, diversification & network flexibility.

LUNCH AND KEYNOTE SPEAKER (12:15-1:45 PM)

How Cities Can Prepare for Self-Driving Cars

A deluge of self-driving cars could turn urban streets into a congested mess -- but it's not inevitable. Drawing from his recent investigation in Vox, MIT Mobility Initiative Senior Fellow David Zipper will suggest specific policies that can help cities future-proof themselves for the rise of autonomous vehicles.

David Zipper is a Senior Fellow at the MIT Mobility Initiative, where he examines the interplay between transportation policy, technology, and society. A Contributing Writer at Vox and Bloomberg CityLab, David's writing has also been published in outlets including The Washington Post, The Atlantic, Slate, and Fast Company. From 2013 to 2017, David was the Managing Director for Smart Cities and Mobility at 1776, a global entrepreneurial hub and venture fund. He previously served as the Director of Business Development and Strategy under two mayors in Washington DC, and as Executive Director of NYC Business Solutions in New York City under Mayor Michael Bloomberg.

David holds an MBA with Highest Honors from Harvard Business School, an M.Phil in Land Economy (Urban Planning) from Cambridge, and a BA with High Honors from Swarthmore College. He has been selected as a Truman Scholar, a Gates Scholar, and a Baker Scholar.

POSTERS (1:50-2:40 PM)

A Collaborative Framework for Real-Time Validation and Anomaly Detection in Urban Traffic Sensors
Chaikasetsin Sruangsaeng, STAR Lab, UW Seattle
This study presents a collaborative, vendor-agnostic framework for real-time validation of urban traffic sensors. The pipeline fuses detector streams, signal-controller logs (SCATS MSS), and video ground truth to dmultiple signal use cases with a transportation agency, the framework establishes baseline metrics, trend monitoring, and issue tracking to increase confidence in operations data.

A Hybrid Temporal-Spatial Framework for Understanding Public Station Usage Patterns: Evidence from Bay Area

Zeyu Wang, University of Washington

We develop a hybrid framework that combines temporal clustering and spatial modeling to analyze public station usage in the San Francisco Bay Area. Using Google Maps Popular Times data for over 1,100 stations, we identify five weekday and weekend usage patterns. Results show strong built environment influences but no spatial autocorrelation, highlighting that functional demand—not proximity—should guide infrastructure planning.

A Proactive Approach to Examining Transportation Safety and Operations

Kevin Chang, Ph.D. and Michael Kulas, University of Idaho

This study seeks to quantitatively and qualitatively examine potential issues that exist from a transportation safety and operations standpoint. The research team is partnering with staff from the King County (WA) Department of Transportation to apply a mixed methods approach in which resident action requests and crash records are gathered and analyzed.

A Synthesis of the state-of-the-practice in Human-Centered AI-related education and workforce development activities

Hazem Aboutaleb, University of Idaho

This poster presents the results of a synthesis covering the state-of-the-practice in Human-Centered AI education and workforce development. The synthesis study examined curricular models, pedagogical approaches, and interdisciplinary frameworks, while identifying gaps in ethical integration and inclusivity.

Advances in Modeling the Resilience of Multimodal Freight Corridors under Disruptions

Tahseen Talukder, University of Idaho

The main objective is to review the resilience of multimodal freight networks under various disruptions, both natural and manmade. We seek to achieve this through a series of interconnected objectives: 1) Establishing a clear understanding of multimodal freight transportation network resilience by synthesizing diverse definitions from the literature; 2) exploring models employed in simulating multimodal freight network resilience, including emerging trends and best practices; 3) identifying indexes and metrics used for assessing resilience; and 4) categorizing and analyzing the types of disruptions studied in relation to multimodal freight transportation networks, from natural disasters to human-made acts.

Advancing Rural Autonomous Driving through Light Weight Segmentation ML Models on edge devices

Shaikh Tanveer Hossain, Washington State University – Vancouver

Rural autonomous driving faces challenges such as irregular roads and limited infrastructure. A lightweight segmentation model (MobileSAM) was retrained on rural datasets and deployed on an NVIDIA Jetson Nano. Results showed strong accuracy but slower inference, limiting real-time performance. This work demonstrates how edge-based ML models can support rural autonomy in cars, farm robots, defense systems, and delivery vehicles.

An Integrated Multivariate Econometric Modeling Framework for Risky Driving Behavior Related Crashes: Evaluating Crash Risk and Severity Across Zones

Pabitra Kumar Roy, Portland State University

Tanmoy Bhowmik, Ph.D. and Jason Anderson, Ph.D., Portland State University

Risky driving behaviors account for most U.S. traffic fatalities yet are rarely analyzed together. Using Oregon's 2022 crash data, this study develops an Integrated Multivariate framework to jointly capture crash frequency, severity, and sequential linkages across the risk behavior driven crashes. Results identify high-risk zones, and provide a policy tool for targeted, data-driven safety planning.

Can Surrogate Safety Measures Explain Crash Patterns at Signalized Intersections? Evidence from Large-Scale Connected-Vehicle Data
Mehrdad Nasri, Muhammad Monjurul Karim, Jingyi He, and Yinhai Wang, University of Washington
This study shows how connected-vehicle data can help prevent crashes before they happen. Using 54.8 million trip records from urban intersections, validated against five years of crash reports, we tested safety indicators such as sudden braking and time-to-collision. Sudden braking proved the strongest predictor, giving agencies a practical tool for proactive, data-driven safety management.

CAV Testbed in the Pacific Northwest
Jeff Ban, Zili Qu, Bart Treece, University of Washington
Ahmed Abdel-Rahim, University of Idaho
Jia Li, Washington State University
This poster surveys the needs of connected and automated vehicles (CAVs) in the region, summarizes the current status of the testbeds, and show a case study of using a virtual CAV testbed for joint vehicle-signal optimization at intersections.

Connecting Bicyclists and Transit: A Multimodal Routing Tool with Bicycle Facilities Scoring
Thobias Sando and Raphael Mrema, University of North Florida
Angela Kitali, Ph.D., University of Washington, Tacoma
This study develops a multimodal routing and scoring platform that integrates ArcGIS Network Analyst, GTFS data, and Google Maps API to generate bicycle, transit, and bike–bus–bike routes. It incorporates facility scoring and Level of Traffic Stress (LTS) to assess infrastructure quality and barriers. Scenario analyses in Duval County show improved connectivity and access, offering a scalable tool for sustainable, accessible transportation planning.

CrashVLA: A Vision-Langage-Action Framework for Online Generation of Safety-Critical Traffic Scenarios
Shucheng Zhang**,** University of Washington
This paper presents CrashVLA, an online framework for generating customized safety-critical traffic scenarios using Vision-Language-Action (VLA) models. The framework supports fine-grained customization of scenario types based on user-specified requirements. This work establishes a new paradigm for scenario-based testing and evaluation in autonomous driving, providing a flexible and scalable tool to advance the safety assessment of learning-based driving agents.

Detecting & Classifying Non-Motorized and Low-Power Micromobility Using Amplitude-Based Inductive-Loop Signatures
Amr Lamloum, University of Idaho
An amplitude-based inductive-loop approach detects and classifies non-motorized and low-power micromobility (bicycles, skates, scooters). We extend a five-digit codebook (CLRVC) with Code1=8, device types in Code 3, and specific body subtypes in Code 4. Envelope features (peak change, duration, area, bump count, symmetry) feed a lightweight classifier that outputs a CLRVC code with an “unknown” fallback. We share an Excel codebook, a labeling CSV, and pilot results

Diffusion-Based Trajectory Planning for Safe Overtaking Using the OSHA Highway Dataset
Jingyi He, University of Washington
This study proposes a diffusion-based trajectory planning framework for safe overtaking using the OSHA dataset. By extracting structured overtaking events and leveraging conditional diffusion models, we generate diverse and safety-constrained trajectories that adapt to dynamic traffic. Results show improved robustness and adaptability compared to baseline methods, highlighting the promise of diffusion models in autonomous highway driving.

Efficient LLMs for Autonomous Driving Applications
Ishparsh Uprety, Washington State University
Autonomous driving excels in perception but struggles with reasoning, as DRL demands vast data, high cost, and fails in rare cases. This work explores LLMs for reasoning, using structured Highway-env data to make human-like driving decisions. By applying Q4_0 quantization to Mistral-7B, we shrink the model for real-time use on Jetson Orin Nano. Results show quantized LLMs retain reasoning while enabling efficient, cost-effective, and scalable edge deployment for safe autonomous driving.

From High-Dimensional Data to Actionable Insights: A Dynamic Factor Modeling Framework for Winter Road Resilience
Chuang Chen, Washington State University|
This study develops a framework that integrates diverse data sources and applies dimensionality reduction and dynamic factor modeling (DFM) to analyze high-frequency, high-dimensional datasets, uncovering latent patterns from multivariate time series. Traffic flow, maintenance vehicle log, and concurrent weather records are fused to extract latent factors that capture the underlying dynamics of roadway conditions. Results demonstrate that maintenance activities exert measurable short- and long-term impacts on traffic flow, with varying effects across location, time of day, and weather severity.

Identifying and Addressing Workforce Gaps in Transportation Infrastructure Projects: Evidence from Employer–Practitioner Surveys and Topic Modeling
Mehrdad Nasri, Muhammad Monjurul Karim, and Ryan Avery, University of Washington
This session presents evidence on Washington State's transportation infrastructure workforce gaps amid rising project demand. Using employer and practitioner surveys and topic modeling of open-ended responses, we identify priorities: modernized curricula with advanced digital tools, expanded internships and apprenticeships, structured supervision and mentoring, and stronger education and industry partnerships to improve readiness, retention, and succession.

Mapping the Impact of Social and Economic Factors on Transportation Mobility in Rural Alaskan Communities
Osama Abaza, Ph.D., University of Alaska, Anchorage
This project investigates how social and economic factors influence transportation mobility in rural Alaskan communities, focusing on accessibility, reliability, and community resilience. Using a combination of GIS analysis, survey data, and transportation network modeling, the study identifies key barriers and opportunities for improving mobility. Findings aim to inform public agencies and local stakeholders by highlighting priority areas for infrastructure investment, policy interventions, and community-driven solutions to enhance connectivity and access to essential services.

Quantification of Bias Representations in Transportation Datasets with Missing Values
Bingzhang Wang, University of Washington
This research investigates bias in transportation datasets, focusing on loop detector data. It identifies bias sources, quantifies impacts on prediction, analytics and proposes countermeasures. Using probabilistic methods like Conditional Neural Processes, we assess representativeness and uncertainty. Case studies show Bayesian approaches outperform conventional models, enabling more robust AI-driven transportation planning.

Taking another look at TriMet's Park and Rides after the Pandemic
Udit Khandelwal, Fehr & Peers
TriMet's Park & Rides (P&Rs) have historically been a popular way for car users to substitute part of their commute with transit and avoid paying for parking in central city. However, the prevalence of hybrid work since the pandemic has meant that, while transit ridership has steadily recovered, P&Rs continue to remain nearly empty across the region. This ongoing project aims to help TriMet devise strategies for long term, sustainable repurposing of its P&Rs facilities and the overall system.

Taxonomy of Existing Sustainable Smart City IoT Projects
Youssef Saleh**,** University of Idaho
This paper presents a taxonomy of eight smart city dimensions and a stakeholder interaction model based on case studies of private initiatives, DoT-funded projects, and vendor solutions. The framework shows how governance and digital infrastructure act as enablers while highlighting issues of vendors, limited redundancy, and inconsistent cybersecurity, providing a baseline for resilient and adaptable smart city strategies.

LIGHTNING TALKS (2:45–3:30 PM)

Track 1: Smart Mobility Analytics

Moderator: Ahmed Abdel-Rahim, Ph.D., University of Idaho and Jeff Ban, Ph.D., University of Washington

Comparing Ultralytics YOLOv8 and YOLOv10 for Multimodal Transportation Counts
River Johnson, Western Carolina University
Computer vision models can record detailed information for active transportation counts, distinguishing between many different types of non-motorized traffic. In this presentation, we improve on a counting model using Ultralytics YOLOv8 and YOLOv10. We found that although YOLOv8 performed slightly better overall, YOLOv10 achieved higher accuracy in categories with fewer samples, and also that excluding some bounding boxes based on occlusion improves model performance.

Harnessing Big Data and Machine Learning for Monitoring and Predicting Traffic Speeds and Travel Times
Bill Cisco, P.E., PTV Group
The PTV Flows cloud-based solution for real-time traffic monitoring and prediction identifies road network issues, detects disruptions and predicts unexpected congestion, allowing traffic agencies to effortlessly monitor and predict traffic in real-time. By leveraging machine learning, state-of-the-art algorithms, and automatic alerts, cities and regional agencies can optimize their traffic management without the need for extensive resources or complex infrastructure.

Loop detector-based calibration of corridor traffic simulation models
Joshi Chetan, PTV Group
A streamlined workflow is presented for calibrating Visum's simplified Pipes-based car-following model using loop-detector data from the Portland–Vancouver region. A custom process derives driver-sensitivity parameters and applies them to simulate the US26 corridor's recurrent bottleneck. Results show that low-cost calibration improves travel time estimates, enhancing the reliability of operational analysis and planning.

Smart and Cooperative Truck Parking Information Management System
Nutvara Jantarathaneewat, University of Washington
The U.S. trucking industry faces major challenges with limited parking and lack of real-time availability, creating safety risks. In 2021, WSDOT launched a Truck Parking Information Management System (TPIMS) using space-by-space sensors, which are accurate but costly. A statewide rollout adopts entry/exit sensors, cheaper but error-prone. This study proposes a human-machine cooperative calibration framework with machine learning to detect anomalies, correct errors, and improve accuracy.

The Future of Lighting Design! Lighting Master Plans and AI Photometric Design: Using Data and Technology to Improve Transportation Safety and Access
Nick Mesler, Evari Consulting, Inc.
Isaak Ari, Founder, Photometrics AI
Street lighting is one of the most effective yet underused tools for improving transportation safety. This session shows how Lighting Master Plans guide human-centric, data-driven safety improvements and how

AI-powered photometric design can bring those plans to life. Learn how to use crash data, prioritize projects, and implement cost-effective lighting solutions that align with real-world conditions and community goals.

Understanding Pedestrian and Bicyclist Crash Risks through Intersection-Level Analysis
Ahmed Elsayed, University of Idaho
This study analyzes pedestrian and bicyclist crashes at urban intersections in Idaho using crash, roadway, and socio-economic data. The results provide actionable insights to help agencies and planners design safer intersections and support the growth of active transportation by identifying key factors influencing crash frequency and severity.

Track 2: Human-Centered Mobility

Moderator: Jon Froehlich, Ph.D., University of Washington

Advancing Multimodal Mobility: GIS-Based Routing and Bicycle Infrastructure Quality Scoring for Active Transportation Planning
Thobias Sando and Raphael Mrema, University of North Florida
Panick Kalambay, Texas Southern University
Angela Kitali, Assistant Professor, University of Washington Tacoma
Monica Deibel, University of Washington Tacoma
A novel GIS-based platform integrates multimodal routing for bicyclists and transit users with segment-level infrastructure scoring and traffic stress analysis. Case studies in Duval County, Florida, show improved connectivity and safety as funded and planned investments are added, enabling evidence-based decisions for active transportation planning.

BikeButler: Creating and Previewing Personalized, Context-Sensitive Bicycle Routes
Jared Hwang, University of Washington
What is considered "bikeable" is highly dependent on not only an individuals' personal skill level and risk tolerance, but also the context of the trip (e.g., commuting, recreation). BikeButler assesses seven infrastructure features, five from government data and OpenStreetMap, and two using Vision Language Models on Street View images, to provide hypercustomizable routing and profile generation. We find that users appreciate the customizability and transparency of BikeButler's route generation.

Catalyzing a Mobility Transition: Establishing Use Cases to Prioritize Public Access to Stations
Ashley Avila, Fehr and Peers
Reducing the impacts of our transportation system remains critical for many public agency goals. This presentation reviews key takeaways from Vancouver, WA and Shoreline, WA, on prioritizing station locations, addressing gaps in the power network, and balancing community priorities with city resources.

Deep Fictitious Play-Based Potential Differential Games for Learning Human-Like Interaction at Unsignalized Intersections,
Kehua Chen, Ph.D., University of Washington
We propose a Deep Fictitious Play-based Potential Differential Game (DFP-PDG) framework to model vehicle interactions at unsignalized intersections. Learned cost weights capture diverse driving styles, ensuring convergence to Nash equilibrium. Results on the INTERACTION dataset show effective human-like policy learning.

Modeling Pedestrian Volumes at Intersections for Safety Performance Function Development
Josh Roll, Oregon DOT
Systemic safety analysis relies on exposure data like annual average daily traffic (AADT), a key input to safety performance functions (SPFs). Yet pedestrian analysis often skips exposure or uses proxies. This talk

highlights how ODOT uses pedestrian push-button actuations to estimate foot traffic via machine learning. These pedestrian exposure estimates improve intersection-level SPFs for pedestrian safety evaluation.

TestRide Your Streets: Action-Oriented Bikeway Design at a Future Green Plaza
Aaron Kuehn, BikeLoud PDX
At Portland's Future Green Plaza, we turned a difficult 5-way junction and seasonal street plaza into a full-scale design lab. With cones, tape, and live rides, participants tested three bikeway options and shared immediate feedback. The results shaped a month-long plaza installation and inspired TestRide, a new companion app for capturing real-time, ground-level insights that help build safer, more human-centered streets.

Amelia Adams, Alta Planning

Track 3: Innovations for Infrastructure Resilience

Moderator: Osama Abaza, Ph.D., University of Alaska, Anchorage

Accelerating Community Connectivity: Rapid-Setting Concrete Solutions for Resilient Infrastructure
Daniel Akerele, University of Washington
Extended closures disrupt connectivity and economies. This study develops and evaluates rapid-setting concretes—optimized CSA cements, polymer modifiers, and prepackaged mixes—achieving over 3,000 psi in four hours. Laboratory and field evaluations demonstrate closures reduced by up to 80%. We propose a performance-based framework linking mix designs with regional climate and loading. These findings guide PacTrans 2025–aligned resilient, low-disruption repairs.

Causal AI for Environmental and Transportation Data
Xinghui Zhao, Ph.D., Washington State University at Vancouver
Today big data has become the key challenge in virtually every area of human endeavor. AI and machine learning approaches are explored in many disciplines to learn patterns from vast datasets. However, heterogeneous datasets often present challenges, especially if these datasets are collected from different disciplines. In this talk, I will present our recent work in discovering causality relations between the transportation and environmental data. The goal is to enhance the understanding of the environmental impact of transportation systems and decisions.

Mobility and Accessibility Resilience of Transportation Infrastructure to Natural Disasters
David Y. Yang, Ph.D., Portland State University
This presentation outlines a framework for assessing the mobility and accessibility resilience of transportation infrastructure to natural disasters, using case studies in Oregon. It details a probabilistic seismic risk assessment for bridge management systems via a weighted hazard scenario method. The analysis can be scaled to the state level for network risk ranking of Oregon's highway bridges. The study also explores the accessibility risk of communities to hospitals in the Portland metro area following a Cascadia Subduction Zone (CSZ) earthquake. Finally, it briefly describes ongoing work on risks associated with Natech events at Portland's Critical Energy Infrastructure (CEI) Hub and their implications on mobility and accessibility.

Mobility in Cold Climates: Coordination of Energy and Transportation Networks
Namun Nahar Maria, UAA
This talk explores strategies for integrating new vehicles into remote communities to enhance resilience and examines their interactions with islanded microgrid systems.

Enhancing winter mobility of pervious concrete pavement via incorporation of engineered biochar
Jialuo He, Washington State University
As an effective solution for runoff control and storm water management, pervious concrete pavement is increasingly used for constructing transportation infrastructure. To make pervious concrete environmentally friendly and sustainable, biochar derived from various biomass via pyrolysis is used to partially replace the Portland cement in it. This study investigated the effect of biochar and its replacement level on the strength, durability, infiltration rate, and skid resistance of pervious concrete.

Ten Transportation Energy Topics You Should Be Researching and 2 You Shouldn't
Steven Polunsky, Washington State Department of Commerce
It's 2026. What transportation energy topics should we study to make the biggest impact and inform the current policy discussion? What should we avoid? A policy practitioner responds. Steven Polunsky, Senior Policy Specialist for Clean Transportation at the Washington State Department of Commerce, will give a humorous, pointed, and quick rundown of ten topics where current research would be valuable as well as two to avoid.

Toward Resilient Transportation Infrastructure: A Probabilistic Framework for Predicting Backward Erosion Piping in Geotechnical Flood Protection Systems
Zhijie Wang, Ph.D., Washington State University
Floods disrupt transportation, threatening safety and supply chains. Levees and dams protect infrastructure but often fail due to backward erosion piping (BEP), causing 50% of floods. Our new model predicts BEP by analyzing soil particle behavior and variability. It accurately forecasts flood risks across scales, enhancing infrastructure resilience. This tool strengthens flood defenses, ensuring safer, more reliable transportation networks.

Break (3:30–3:50 PM)

Concurrent sessions (3:50–5:15 PM)

Track 1: Smart Mobility Analytics
AI-Driven Traffic and Safety Insights

Moderator: Shane Burbridge, Sierra Transportation Technologies

Next-Gen Transportation Analytics: Enabling Large Language Models in Traffic Frameworks
Muhammad Karim**,** University of Washington, Seattle
We present a unified framework where large language models transform traffic analytics by enabling natural language access to complex data, real-time safety insights, and scalable scenario evaluation. From TP-GPT for intelligent traffic querying, to deployment on US-97 for community safety, to CrashVLA for autonomous vehicle testing, our work shows how LLMs democratize transportation intelligence and enhance safety.

AI Vision for Traffic Monitoring and Real-Time Safety Interventions: Field Results from Rural and Urban Deployments
Wei Sun, Ph.D., Aiwaysion
This session presents field-tested AI vision systems that combine advanced video analytics with edge computing to provide continuous traffic monitoring and enable real-time safety interventions. Developed through USDOT Small Business Innovation Research (SBIR) projects, these systems use fine-grained classification, multi-object tracking, and multi-camera fusion to accurately monitor FHWA 13 vehicle classes, pedestrians, and micromobility users. Advanced tracking and re-identification algorithms reduce double counting and missed detections, while trajectory analysis enables detection of near-miss events, conflicts,

and risky behaviors that inform safety countermeasures. Deployments include both rural and urban environments: the US-97 corridor in Washington with the Yakama Nation and WSDOT, the City of Bellevue, WA, and the City of Davis, CA in collaboration with Caltrans. These projects span freeways, arterials, intersections, and rural corridors, representing diverse environmental and operational contexts.

Enhancing Crash Classification through Attention-based Models: Unveiling Causal Factor Importance and Interactions for Improved Transportation Mobility and Safety
Masoumeh Kapourchali, University of Alaska, Anchorage

AI powered solutions for safer streets
Billy Baker, Derq

Track 2: Human-Centered Mobility
Infrastructure and Active Mobility

Moderator: Jennifer Dill, Ph.D., TREC at Portland State University

Tactical curb extensions and the pedestrian crossing experience
Nathan McNeil, Transportation Research and Education Center (TREC) at Portland State University
Curb extensions narrow the roadway and reduce crossing distances for pedestrians, and offer agencies a tool to address pedestrian safety challenges. Tactical curb extensions are a low-cost quick-build solution to extend the "curb" with paint and posts instead of concrete. Mural art can be added to provide contrast to the roadway and beautify the location. This presentation will present the state of knowledge and preliminary findings from an evaluation of these different types of curb extensions.

Curb Ramps, Pedestrian Signals, Sidewalk Obstacles: Combining Community-Sourced Data with AI for Scalable Pedestrian Infrastructure Assessment
Jon Froehlich, PhD., University of Washington
Safe, accessible, and well-maintained sidewalks can enhance public health, promote social interactions, and support independence for people with mobility disabilities. But collecting data on sidewalks is laborious and expensive and often excludes community involvement. We describe our open-source web platform, https://projectsidewalk.org, that combines community assessments with AI to scalably assess pedestrian infrastructure and describe case studies of successes and failures.

Estimating behavior change and benefits from new active transportation infrastructure
Joseph Broach, Ph.D., Portland Metro and TREC at Portland State University
Improving active transportation networks can generate substantial benefits, but estimating those benefits requires predicting the likely behavioral response to a given project. How much new active travel? How much shifts from motor vehicles? An emerging set of options is developing to answer these questions including: enhanced regional travel demand models; simplified tools that extrapolate from existing counts; and, sketch planning tools that directly estimate impacts such as VMT reduction.

Shortcuts to Complete Streets
Talia Jacobson, Toole Design
We have plenty of evidence about the benefits of complete streets – so why do so many public agencies struggle to adopt new practices and change old investment patterns? Drawing on practitioner experience building multimodal networks through incremental changes, this presentation will focus on creative ways around the obstacles public sector staff face. It will highlight key opportunities to intervene throughout the transportation lifecycle and areas where research could help.

Track 3: Innovations for Infrastructure Resilience
Geotechnical Insights and Simulation Tools for Infrastructure Safety

Moderator: Diane Moug, Ph.D., Portland State University

Laboratory Characterization of Geotechnical Earthquake Strength and Behavior of Silt Soils
Amir Barati Nia, Portland State University
Liquefaction threatens Pacific Northwest transportation infrastructure due to prevalent low-plastic silts, for which engineering assessment methods generally are limited. This research characterizes the seismic behavior of these soils by examining the effects of plasticity index and excess pore pressure ratio on three key parameters: cyclic resistance ratio, post-earthquake shear strength, and post-liquefaction volumetric strain (settlement). The goal is to improve seismic hazard assessment for the region's transportation assets.

Liquefaction Impacts on PacTrans Mobility: Mechanics-Informed AI Modeling for Simulation, Disaster, and Near-Real-Time Response
Morgan Sanger, University of Washington
Emergent geospatial liquefaction models use mechanics-informed AI to surrogate state-of-practice geotechnical methods and produce high-resolution predictions of liquefaction damage across the affected regions of large earthquakes. These forecasts facilitate a wide range of regional applications, including evacuation and emergency-response route planning, network vulnerability analysis, community impact assessments, and public investment prioritization, which are explored in this presentation.

Geologic deposit strength inversion for coseismic slope stability along the Portland Water Bureau's transmission alignment
Michael W. Greenfield, Ph.D., P.E., Greenfield Geotechnical
The Portland Water Bureau's conduits traverse an approximately 11 km-long section of landslide-prone geology along the Bull Run canyon. While geotechnical data are sparse, rational constraints on the existing slope conditions provide an opportunity to back-calculate a range of strength parameters. We develop a maximum likelihood inversion methodology to estimate possible strength parameters, appropriately matching the observed static behavior while also considering a range of potential modes that could have triggered prehistoric and historic landslides.

Understanding subsurface conditions is critical for resilient infrastructure
Andrew Fiske, WashDOT
This talk highlights the value of robust field exploration, regional context, and emerging tools such as generative AI to identify trends and leverage historic data. We will also discuss advances in national design codes through AASHTO that address site and model variability, enabling tailored exploration and testing strategies and the use of more efficient resistance factors in geotechnical design.

Social Hour and Awards (5:15 – 6:30 pm)

Speaker Bios (Concurrent and Plenary Sessions)

Abaza, Osama
Professor of Civil Engineering
University of Alaska Anchorage
Osama Abaza, PhD, Professor of Civil Engineering at UAA, has 38 years of academic and industry experience. He is Associate Director of PacTrans, with research focused on cold region transportation, traffic safety, pavement engineering, and sustainable materials.

Baker, Billy
Regional Sales Manager
Derq USA, INC
2013 Graduate of Greensboro College, Born in Sandy Springs, Maryland. Raised in Boise, Idaho. Over ten plus years experience in Video Surveillance, Camera Analytics, AI Software.

Broach, Joseph
Senior Researcher and Modeler, Oregon Metro MPO and Research Associate, TREC at Portland State University
Dr. Joe Broach holds dual appointments as Senior Researcher and Modeler at Oregon Metro MPO and Research Associate at the Transportation Research and Education Center (TREC) at Portland State University. During 15-plus years in transportation research and planning, his work on non-motorized transportation modeling, behavior, and data has been widely published, incorporated into federal guidance, and incorporated into regional travel models, including Metro's class-leading bicycle demand model.

Chang, Carol
Senior Planning Coordinator
Regional Disaster Preparedness Organization (RDPO)
Carol is a Senior Planning Coordinator supporting the Portland metro region's disaster planning and preparedness efforts through convening and collaboration. Prior to the RDPO, she worked in New York City in the nonprofit and public sectors doing program management, and emergency management for human services and logistics.

Durrani, Akmal
SWR Pavement and Soils Engineer
Washington Department of Transportation
I am a civil engineer with noteworthy international study experiences, coupled with multiple awards recognizing academic excellence and outstanding achievements in education. I have two degrees in civil engineering, a BS from University of Gaziantep and a MS from Ohio University. My WHY in life is to contribute to constructing safe, cost-effective, resilient, sustainable and inclusive infrastructures in underserved communities, aiming to enhance overall living conditions

Dutta, Utpal
Professor
University of Alaska Anchorage
Utpal Dutta graduated from Indian School of Mines, Dhanbad, India, with M.Sc (Tech) in Applied Geophysics in 1988 and then received his Ph.D. from the same institute in 1992. Prof. Dutta has published nearly 60 technical papers in respected international journals and various conference proceedings, focusing on issues related to earthquake engineering, earthquake hazards, and urban seismic microzonation. He taught various graduate courses in Exploration and Solid Earth Geophysics at GNDU from 1992-1998.

Fiske, Andrew
State Geotechnical Engineer
Washington Department of Transportation
Andrew Fiske has 25 years' experience in civil and geotechnical engineering. He advances best practices, mentors developing professionals, and serves on AASHTO subcommittees, national research, and UW Tacoma's Civil Engineering advisory board.

Froehlich, Jon E.
Professor
University of Washington
Jon is a Professor in the Allen School of Computer Science at the University of Washington (UW), a Research Scientist at Google Research, and co-founder of projectsidewalk.org, a Crowd+AI platform for urban accessibility analytics. At UW, he directs the Makeability Lab, which specializes in human-centered AI in urban computing and augmented reality.

Greenfield, Michael W.
Principal Engineer
Greenfield Geotechnical
Dr. Greenfield has nearly 20 years of experience as a geotechnical earthquake engineering expert, providing major research contributions in seismology, slope stability evaluation, and liquefaction hazard analysis and mitigation design. Since 2017, he has served as Principal Engineer of Greenfield Geotechnical in Portland, Oregon

Griffin, Greg P.
Professor of Practice & Principal Research Analyst
University of Texas at San Antonio & Oregon Dept. of Transportation
Greg Griffin, Ph.D., AICP coordinates traffic safety and human factors research at the Oregon Department of Transportation, and leads operations of ScooterLab, a National Science Foundation testbed at The University of Texas at San Antonio. His first book is Transport Truths: Planning Methods and Ethics for Global Futures (2025).

Ibrahim, Ahmed
Professor
University of Idaho
Dr. Ahmed Ibrahim is a Professor in the Department of Civil & Environmental Engineering at the University of Idaho. His research interests involve 3D printing of concrete and timber, blast resistant design, large-scale experimental testing and numerical analysis of bridge elements, and the performance and strengthening of reinforced and prestressed concrete bridges.

Jacobson, Talia
Principal Planner | Portland Office Director
Toole Design
A principal planner with public, private, and nonprofit experience, Talia has dedicated her career to making it easy, safe, and affordable for people to meet daily needs without having to drive. She works with local and state governments to change everyday practices despite constrained resources.

Jetter, Antonie
Portland State University
Antonie is a professor of technology management with a focus on sensemaking in complex systems. Ameeta is an assistant professor of computer science and AI/NLP researcher. They jointly investigate and develop AI through a user-centric, community-focused lens in PSU's Compassionate Computing Lab.

Karim, Muhammad
Postdoctoral Scholar
University of Washington, Seattle
Dr. Muhammad Karim is a Postdoctoral Scholar at the University of Washington. His research applies AI, LLMs, and edge computing to transportation systems, with a focus on data-driven safety, traffic analytics, and practical AI solutions for improved mobility and community impact.

Li, Jia
Assistant Professor
Washington State University
Jia Li is Assistant Professor at Washington State University. His research focuses on intelligent transportation, at the intersection of autonomous driving, multi-agent systems, and artificial intelligence. He has served as a leading PI for projects sponsored by NSF, UTC, and state DOTs.

Lowry, Michael
Professor and Chair of Civil and Environmental Engineering
University of Idaho
Dr. Michael Lowry of the University of Idaho conducts research on capital investment decision-making, travel demand modeling, and urban planning for bicycle and pedestrian infrastructure. He teaches courses on geographic information systems, traffic safety, and benefit–cost analysis.

Marek, PE, PTOE, Joseph
Senior Traffic Engineer
Clackamas County
Joseph Marek served as the Clackamas County Traffic Engineer from 1998 until June of 2025, semi-retiring after 34 years of service. He is currently a part time Senior Civil Engineer focusing on safety analysis, project development and implementation on a diverse 1,400 mile rural and urban road system.

McNeil, Nathan
Research Associate
Transportation Research and Education Center (TREC) at Portland State University
Nathan conducts research and supports programming focused on how to improve places for walking, bicycling and taking transit. Projects have explored the impact of innovative bike and pedestrian infrastructure on safety, perceptions of comfort, and travel behavior.

Mermin, John
Senior Transportation Planner
Oregon Metro
John is a Senior Transportation Planner at Metro, the Metropolitan Planning Organization for the greater Portland region. He is the policy lead on emergency transportation routes and active transportation and serves as the co-project manager of the Regional Emergency Transportation Routes Phase 2. He is also an alumni of PSU's MURP program.

Nia, Amir Barati
PhD student
Portland State University
Amir Barati Nia is a Geotechnical Engineering Ph.D. candidate at Portland State University. His research characterizes the behavior of low-plastic silt using direct simple shear testing. He utilizes slurry deposition and reconstitution to systematically analyze the behavior of problematic and lesser-known soils.

Pickul, Jessica
Principal and Sr. Strategist
JLA Public Involvement
Jessica has been engaging communities about public projects for local, regional and state agencies in Oregon and Washington for more than a decade. She advises government agencies on the best approaches to engage people at all levels of a project, including community groups, jurisdictional partners, businesses, advocacy organizations, and community members. With a focus on continuous innovation, Jessica marries proven techniques with new tools. As one of JLA's Principals, Jessica guides the team in responding to the unique context, challenges and opportunities facing each public engagement process, as well as continually considering best practices in our field. Jesica holds a degree in Community Development from PSU, which sparked her passion for collaborative public process.

Plein, Cat
Director, Programs & Policy
Forth
Cat Plein serves as Programs and Policy Director at Forth, where she oversees the organization's programmatic strategy and policy efforts to advance equitable electric transportation. With over 15 years of experience growing teams in both nonprofit and corporate settings, Cat brings a collaborative, impact-driven approach to building programs that serve communities and influence transportation policy.

Rekabdar, Banafsheh
Assistant Professor of Computer Science
Portland State University
Dr. Banafsheh Rekabdar is an Assistant Professor and Director of the AI Research Lab at PSU. Her research focuses on AI, applied ML, RL, and LLMs with applications in transportation and healthcare.

Roalkvam, Carol Lee
Senior Adviser
Washington Department of Transportation (retired)
Carol Lee Roalkvam recently retired from her long-time position as Washington State DOT's senior adviser on federal and state environmental policy and emerging issues. She directed WSDOT's climate change adaptation and resilience efforts. Under her leadership, WSDOT completed three Federal Highway climate change pilots. She supported agency-wide efforts to create, operate, and maintain a resilient multimodal system that equitably serves all communities and improves environmental outcomes. She applied her knowledge of the inner workings of a state DOT to the task of integrating resilience into transportation project delivery. Carol Lee represented WSDOT in several national and state forums. She earned a M.A. Environmental Studies/Political Science Western WA University, and B.A. from American University, Washington DC. In her retirement, she is serving on the Guidance Committee for the USGS 2025 Biodiversity and Climate Change Assessment.

Sanger, Morgan
PhD Student
University of Washington
Morgan Sanger, P.E., is a PhD student in geotechnical engineering at the University of Washington. Her doctoral research includes applying machine learning to large geospatial and geotechnical data sets for improved earthquake modeling and risk management.

Singh, Rubina
PhD Student
University of Washington
Rubina Singh is a PhD student in Transportation Engineering at the University of Washington, where she is a member of the Sustainable Transportation Lab. Her research focuses on travel behavior and the adoption of electric transportation modes to inform strategies for low-carbon mobility transitions.

Sun, Wei
Co-Founder and Chief Executive Officer
AIWaysion
Dr. Wei Sun is the Co-Founder and Chief Executive Officer of AIWaysion. He holds a Ph.D. in transportation engineering and has over a decade of experience in both industry and academia. Dr. Sun's active research fields include AI and traffic sensing, traffic safety, and ITS. Dr. Sun is currently the PI and Co-PI of several successful USDOT sponsored projects. Dr. Sun has a proven track record of leading and contributing to numerous ITS projects, leveraging advanced sensing, computer vision, AI/ML, etc. He has collaborated with federal, state, tribal and local agencies on projects funded by the USDOT, FHWA, NCHRP, Washington State Department of Transportation, New York City Department of Transportation, Confederated Tribes of the Yakama Nation, Florida Department of Transportation, etc. Dr. Sun has also published and served as reviewers for various journals.

Wilber, Wende
Senior Principal
Kittelson & Associates
Wende Wilber, PTP, a Senior Principal with Kittelson & Associates, leads Kittelson's Spokane office. She has over 30 years of experience delivering multi-modal transportation and land use planning projects across the nation. She successfully integrates community voices into the decision-making process through creative engagement methods.

Wu, Lingzi (PhD, P.Eng)
Director, CIRCUIT Lab
Assistant Professor, Department of Construction Management, University of Washington
Adjunct Assistant Professor, Department of Civil and Environmental Engineering, University of Washington
Affiliated Faculty, Interdisciplinary PhD Program in Urban Design and Planning, University of Washington
Adjunct Professor, Department of Civil and Environmental Engineering, University of Alberta
University of Washington
Dr. Wu is an interdisciplinary scholar in smart construction and sustainable infrastructure. Her research advances construction digitalization, resilience, and community-centered urban systems, aiming to transform the built environment through scholarship, teaching, and service.

Zhao, Xinghui
Director and Associate Professor
School of Engineering and Computer Science, Washington State University Vancouver
Dr. Xinghui Zhao is the Director of the School of Engineering and Computer Science at WSU Vancouver. Her research interests lie in parallel and distributed systems, machine learning, and big data computing. She is particularly interested in interdisciplinary research projects which leverage cutting edge machine learning and AI technologies to solve large scale, real-world problems.

Zipper, David

David Zipper is a Senior Fellow at the MIT Mobility Initiative, where he examines the interplay between transportation policy, technology, and society. A Contributing Writer at Vox and Bloomberg CityLab, David's writing has also been published in outlets including The Washington Post, The Atlantic, Slate, and Fast Company. From 2013 to 2017, David was the Managing Director for Smart Cities and Mobility at 1776, a global entrepreneurial hub and venture fund. He previously served as the Director of Business Development and Strategy under two mayors in Washington DC, and as Executive Director of NYC Business Solutions in New York City under Mayor Michael Bloomberg. David holds an MBA with Highest Honors from Harvard Business School, an M.Phil in Land Economy (Urban Planning) from Cambridge, and a BA with High Honors from Swarthmore College. He has been selected as a Truman Scholar, a Gates Scholar, and a Baker Scholar.