Policy Primer

POLICY BRIEF

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Smart Commutes, Smarter Cities: A Government and Business Partnership

Utah's Office of Artificial Intelligence Policy (OAIP) should initiate and coordinate a public-private data sharing initiative to integrate return-to-office data into an AI traffic modeling tool.

EXECUTIVE SUMMARY

Utah's Office of Artificial Intelligence Policy (OAIP) should initiate and coordinate an innovative public-private data sharing initiative between the State of Utah, the Utah Department of Transportation (UDOT), and major Salt Lake City area employers. This partnership would integrate anonymized return-to-office scheduling data into an AI powered traffic modeling tool. By layering this new dataset over Utah's existing transportation analytics, UDOT, supported by OAIP during the pilot phase, could generate predictive insights into how different work schedules impact regional congestion. The goal is to equip public agencies and private employers with scenario based tools to support flexible scheduling, reduce peak hour traffic, improve air quality, and enable more sustainable urban development across the state. Longterm ownership of the project would transition to UDOT, ensuring continuity and integration with Utah's broader transportation infrastructure planning.

BACKGROUND

What was once a modest capital with fewer than 50,000 residents, Salt Lake City has grown into a dynamic urban hub at the center of one of the fastest growing states in the country. Fueled by a strong economy, a high quality of life, and a wave of inbound migration, Utah's Wasatch Front, including Salt Lake City, Provo, and surrounding areas, is now home to over 80% of the state's population.

While this growth brings economic opportunity, it also comes with costs — such as congestion, higher housing costs, and air pollution. The Federal Highway Administration (FHA has observed that rising traffic congestion limits economic development, degrades quality of life, and contributes to environmental degradation due to increased emissions. In Salt Lake City, these impacts are particularly visible during peak commuting hours, especially in and out of downtown, where the road network is under mounting strain.

The primary drivers of this congestion are Utah's rapid population growth and the implementation of return-to-office mandates by major employers. Additionally, the expansion of e-commerce has led to an increase in commercial freight and delivery traffic, with fulfillment centers proliferating in areas surrounding Salt Lake City. Utah already employs Adaptive Traffic Control Systems and uses UDOT's traffic data platforms, like UDOT Traffic and the Connected Vehicle Data Ecosystem. Yet it currently lacks a holistic, predictive traffic strategy that accounts for changing workplace dynamics and the private sector's role in daily traffic patterns. Without strategic intervention, these compounding pressures will further overwhelm existing infrastructure. Utah urgently needs scalable, data informed solutions to manage congestion proactively and protect long-term economic resilience and livability.

Salt Lake City's traffic congestion is heavily shaped by commuter flows from surrounding suburban cities like West Jordan, Sandy, and Ogden. A handful of major employers — such as the University of Utah, Intermountain Health, Zions Bank, and various state and federal agencies — account for a significant share of commuting volume. These anchor institutions are ideal partners for a pilot program, given their large workforces and ability to influence regional mobility patterns.

RECOMMENDATIONS

OAIP should lead a public-private partnership to integrate anonymized return-to-office scheduling data from major Salt Lake City employers into an AI powered traffic modeling tool. The initiative would seek to mitigate peak hour congestion by enabling employers and state agencies to align return-to- office scheduling with real-time traffic forecasting. If effectively implemented, this model could yield widespread benefits in areas of traffic flow, environmental sustainability, urban planning, and economic efficiency, while maintaining strict privacy standards.

The impact of such a tool could be multifaceted. By allowing companies to stagger in-office work days based on modeled traffic forecasts, this solution could significantly reduce peak hour traffic volume. Research suggests that a modest 10–15% reduction in vehicle traffic during peak hours can lead to outsized improvements in commute times, emissions, and roadway safety. By strategically scheduling work-from-home and hybrid days across major employers in Salt Lake City, the model could help flatten the morning and evening rush hour spikes thus easing pressure on critical corridors like I-15. These predictive capabilities could provide Utah's government with a new layer of insight to shape future transportation and workforce policies, such as congestion pricing, transit subsidies, or flexible work incentives. This tool would also help guide zoning decisions and investment in public transit infrastructure, particularly in high commute areas.

Furthermore, air quality stands to benefit considerably from this shift. The Salt Lake Valley is prone to wintertime temperature inversions, which trap pollution and lead to hazardous air quality days. Vehicle emissions are a major contributor to this pollution, especially during rush hour when engines idle in traffic. By shifting work schedules to reduce congestion during inversion prone periods, the AI model could support public health efforts to lower pollution exposure during these vulnerable times. The Utah Department of Environmental Quality has previously identified traffic related pollution as a key target for improving air quality, reinforcing the urgency of data informed intervention.

From an economic perspective, the AI powered traffic modeling tool could serve as a compelling option for companies looking to enhance productivity while reducing overhead associated with traffic delays. A report from the FHA found that urban congestion costs US businesses over $100 billion annually in lost time and fuel. For employers, this AI system would offer actionable insights to align business operations with civic responsibility, all while contributing to a more livable and efficient urban environment. The ability to simulate and visualize how different work policies affect congestion could also improve internal decisionmaking and strengthen environmental stewardship commitments.

Phase 1: Data Collection And Model Development

To build a robust and insightful AI model, the initiative should begin with the integration of diverse data sources. Commute and traffic data from UDOT, UTA, and third party telematics platforms would provide foundational infrastructure and flow insights. Human resources scheduling data from public agencies would offer visibility into current workplace attendance trends, while employer supplied, anonymized survey data would add nuance to commuting behaviors and preferences. These inputs would feed into the model to produce simulations of traffic patterns under various hybrid, remote, or staggered work schedules affecting regional traffic patterns. Scenario outputs would include projected changes in congestion levels, estimated emissions reductions, and potential cost savings to both employers and the public sector.

Phase 2: Pilot Deployment on I-15 Corridor

With data supporting the goal, a well-structured pilot phase would focus on the I-15 corridor, one of the most congested routes in the state, particularly during the northbound morning and southbound evening rush hours. The corridor's high traffic volume and dense employer concentration make it an ideal testbed. Seasonal variation, such as winter ski traffic and the school year calendar, should also be integrated to ensure the model accounts for real-world fluctuations in commuting behavior. State agencies like the Department of Workforce Services, along with a cross section of major Salt Lake City employers, could serve as early adopters and help refine the tool for broader use and demonstrate its value. This phase would also allow for refinement of data protocols, employer participation workflows, and the AI model itself before scaling further.

Phase 3: Privacy, Trust, and Transparency

Privacy and public trust must be foundational to the success of this initiative. The model should be built with privacy-by-design principles, using only aggregated and anonymized data. No personally identifiable information, location tracking, or individual behavior data would be collected or analyzed. To reinforce trust, OAIP and UDOT should commit to transparency by publishing its methodology and data handling practices. Open-source audit trails and opportunities for independent, third party review will further validate the system's integrity and fairness. These steps are crucial for maintaining confidence among both participating employers and the general public.

Phase 4: Expansion and Statewide Scalability

Following a successful pilot, the program can be expanded across the Wasatch Front, including to cities such as Provo and Ogden, which share similar congestion challenges and commuting dynamics. The program has the potential to seamlessly integrate with the Wasatch Front Regional Council Congestion Management Process, an analytical tool designed to support the development of both the Regional Transportation Plan RTP and the Transportation Improvement Program TIP. This integration would enhance traffic planning efforts by leveraging predictive congestion analysis and data driven decisionmaking. The scalability of the AI model will enable flexible adaptation to each region's unique traffic conditions and workforce composition. As the program matures, Utah will be well positioned to lead nationally in AI informed urban mobility planning. The initiative could serve as a model for other states seeking to address traffic congestion through public-private collaboration and innovative use of workplace data. OAIP's leadership in launching and scaling this program would highlight Utah's forward thinking approach to smart city policy and emerging technology governance.

APPENDIX

Appendix 1 - The Operational Plan outlines the step-by-step roles and responsibilities of stakeholders, employers, OAIP, and UDOT, in the Smart Commutes, Smarter Cities initiative. The document serves as a practical guide to implement, coordinate, and scale the data-sharing and traffic modeling workflow.

Appendix 2 - This document presents the interface mockup for the Traffic Management Tool, which leverages granular commuter data within AI driven predictive models. The mockup offers a visual representation of the platform's preliminary User Experience design. The tool is designed for use by all members of the proposed Government–Business partnership.

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