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AI Powered Dynamic Pricing Pilot for Public Transit to Reduce Traffic Congestion

EXECUTIVE SUMMARY

Salt Lake City's metropolitan area faces increasing traffic congestion, leading to prolonged commute times and air pollution. This project recommends that Utah's Office of Artificial Intelligence (OAIP) partner with Utah's Department of Transportation (UDOT) and the Utah Transportation Authority (UTA) to launch an AI driven dynamic pricing and optimization pilot for public transit. By integrating the agencies' datasets, the OAIP could harness historical and real-time commuter data to produce AI generated predictions of peak congestion periods and areas. The pilot would build on existing infrastructure and does not require new data collection, offering a cost-effective model for congestion-prone cities across the country.

PROBLEM

Despite Salt Lake City's multiple public transit services, ridership remains too low to alleviate road congestion. Utahns prefer commuting via private vehicles, citing convenience and cost as leading reasons for their choice. As a first step to reducing this traffic congestion, Utah has adopted cutting-edge traffic analytics systems to gather information on commuters' patterns. For example, UDOT uses a light detection and ranging tool to better understand vehicle movements. However, this data has not yet been leveraged for dynamic fare or routing decisions and instead remains fragmented across government agencies.

AI powered analytics tools could process the data to form predictions and incentives for optimal ridership patterns.

SOLUTION

This project proposes that the OAIP, UDOT, and UTAH integrate their historical commuter data with real-time traffic data to dynamically adjust public transit fares. AI powered analytics tools could process the data to form predictions and incentives for optimal ridership patterns, particularly during peak congestion hours and days with elevated smog levels. This pilot would reduce emissions and enhance service reliability, making public transit a more attractive, affordable, and sustainable solution for Salt Lake City's commuters. Further, by tracking outcomes such as air quality improvements and reduction in single-occupancy vehicle use, Utah could pioneer a replicable model for AI powered transportation governance.

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For more information about this proposal, see: (1) [a policy memo expanding on this proposal](#) and (2) [a Case Study Comparison, highlighting how other cities have addressed traffic congestion by utilizing AI powered solutions.](#)