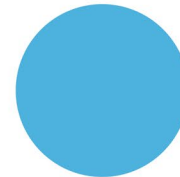


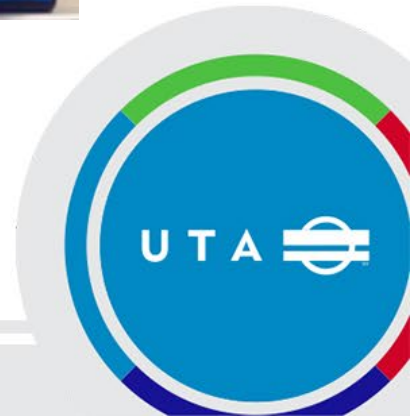
Transit Signal Priority (TSP) Update



Intro: What is Transit Signal Priority (TSP)?

A technology that helps to reduce the waiting time for public transit vehicles at intersections

In partnership with UDOT, the UTA TSP project modifies traffic signal timing by allowing a longer green light for buses that are late



Benefits of TSP

TSP can reduce transit travel time, increase reliability, and improve the overall customer experience

Specific examples of reduced bus travel times in other cities

- 8-10% in Seattle, Los Angeles, and Portland
- 4-15% in Minneapolis
- 15% in Chicago

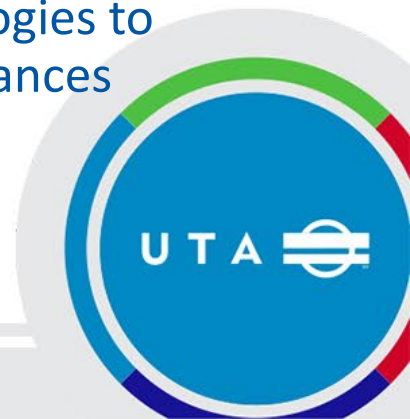
UTA has benefited from TSP increasing bus reliability

- Route 217: On-time reliability +5% with 19% less schedule variability
- UVX: Large improvements in reliability



Bus TSP is a Partnered Project with UDOT: current grants and work

- The Utah Department of Transportation (UDOT) has actively partnered with the U.S. Department of Transportation (USDOT) on multiple grant initiatives to upgrade traffic signals and deploy **V2X** (Vehicle-to-Everything) smart infrastructure statewide.
- **Connecting the West:** A \$20 million USDOT grant awarded to UDOT (in a tri-state partnership with Colorado and Wyoming) to accelerate the deployment of V2X technologies at traffic signals.
- **SMART Grant (Verified Connected Intersections):** Funded by a USDOT SMART grant, UDOT partnered with automakers (Ford, GM, Nissan) to prototype a connected corridor.
- **LiDAR Integration:** Using both federal funding and state initiatives, UDOT is deploying AI-powered 3D perception technologies at intersections. This detects pedestrians, cyclists, and vehicles in real-time, allowing traffic lights to dynamically adjust timing and improve safety.
- **Transit & Emergency Preemption:** UDOT utilizes these vehicle-to-infrastructure technologies to equip Utah Transit Authority (UTA) buses. They are also equipping fire trucks and ambulances with signal preemption to turn lights green while en route to critical calls.



TSP Projects Current Status

1. Capital project equipping approximately 330 buses with TSP On Board Units. The project's objective is to improve speed and reliability on core bus routes.
2. Upcoming TSP Modeling project on bus and BRT routes to conduct a modeling-based study to optimize TSP deployment and better utilize the technology



Capital TSP Project Recent Accomplishments

- Recent software update
- Several key routes – UVX, OGX, MVX and others – now have tighter scheduling thresholds to keep buses on time
- Milestone - With 223 buses outfitted



Capital TSP Project Next Steps

- New Bus Deployments: Focus is on planning installations for 21 new buses scheduled to arrive in the fall.
- August Demonstration: Partnering with UDOT for a federal technology bus demo
- Tech Support: Troubleshooting some technical issues between the TSP equipment and standard bus systems to ensure everything runs smoothly.
- Long-Term: This project remains ongoing as new buses require continuous hardware installations, though it may eventually transition into standard procurement or fleet management processes.



TSP Modeling Project Overview

- Innovative Mobility Solutions (IMS) is in process of hiring a consultant to model scenarios and optimize the TSP system settings and better utilize the technology
- Modelling UTA Route 35, UVX and OGX
- Adjust TSP settings to see effect on
 - Bus speed and reliability
 - Overall traffic flow and cross-traffic (including all modes, pedestrian, autos)
- Results will provide actionable insights for UTA and UDOT to optimize TSP
- V2X and LiDAR opportunities roadmap to improve safety and performance
- Consultant will remain on call for up to 5 years



Questions?

